Ford testing (1)

1. the price

"Expert ... stress on behalf of Thomas Ryan in Continuing Circumstances"

[illegible]

An effort has been made to secure the present whereabouts of [illegible] the [illegible] USNOG Naval Station!

Gerard Lilly [illegible]

Ford test (2)

[illegible]

"three of four

p 9 1 old yellow dress handkerchief

1 wet marked in pencil

p 7 "eldely gentleman"

p 9 " old man

10 [illegible] old person = Young

p 12 Fourth has most problems

Kenneth M Layne

p 51 Spiral design produced as early as 800 B.C.
& 54 Woodbury says Tobias was in the die
& later polished off
I say why is the ~~Overdate~~ below A on that
~~Hat piece~~ die break on that coin and
not on others with die break.

Ford testimony (4)

p 64 65
I don't say working dies" had the
chip — he says I did

p 66 Says
he still feels that the record
should show
p66 Pedigree & [illegible] listed endlessly
p67 USA-OG #50 with two plates
this no [illegible] in dec A
p 79 Nagy Coffee says card might be how they knew
Moffat Co
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nice lamp

p 89 Adams made a great mistake [illegible] had the

p 89 Phila Mint collection had in 1912
USA OG #50
(they are gone now) #10 Adams No 3
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p 83 Last number F on Adams card (I can't find it)

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Nagy

Ford Testimony (5)

August 1967
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PANEL CHAIRMAN

PROFESSIONAL NUMISMATISTS GUILD, INC.

ARBITRATION PANEL

PANEL MEMBERS:

RONNIE CARR, Chairman

LESTER MERKIN

HERBERT BERGEN

ARBITRATION CONTROVERSY BETWEEN:

PAUL E. GARLAND and THOMAS RYAN

Relative

To The

U.S.A.O.G. 1853 Double Eagle

OPINION, ANALYSIS

AND EXHIBITS

of

JOHN J. FORD, JR.

Expert Witness
on behalf
of
Thomas Ryan
Sustaining Genuineness

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August 1967

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INTRODUCTION AND BACKGROUND - THE FRANKLIN HOARD DISCOVERY

About fifteen years ago, I commenced the serious study of Pioneer Gold coins and related items, favoring unpublished material, including patterns, essais, experimental and trial strikes, and assay ingots. My studies included the compilation of a card file, a card being made up for each item seen or handled, with photographs affixed and pertinent data entered. I also started to gather photographs of as many different examples of published Pioneer Gold coins as possible, and I made an effort to obtain inventory listings of the largest collections of such material. Since 1952, I have assembled a comprehensive file card listing containing both data and photographs pertaining to hundreds of unpublished pieces, and well over a thousand photos have been accumulated illustrating specimens of various regular or published Pioneer Gold coins and ingots. A reference library of non-numismatic literature pertaining to the western mining states has been put together, with considerable emphasis placed upon the acquisition of early business directories. Where specific books were not available for purchase, I examined them in libraries. For instance, I spent a week at the Huntington Library in San Marino, California, as early as 1958, taking notes from 1850-55 San Francisco newspapers and perusing rare

directories. My files include the inventories of such large and famous Pioneer Gold collections as those of W. C. Newcomer, J. W. Garrett, F. C. C. Boyd, King Farouk, J. H. Murrell, Henry H. Clifford and Josiah K. Lilly. Information has also been gathered concerning other holdings, such as the Col. Green, Smith, Dupont, Williams and Painter collections. The contents of institutions have been examined and listings made. My regular numismatic library is probably as complete as any privately owned so far as the American field is concerned, and includes not only books, but notes, documents, correspondence and similar associated papers.

Shortly after I started the study of Pioneer Gold, I developed an interest in rare coin forgeries and counterfeits and began a parallel investigation into the intricacies of that fascinating field. Before long, I found myself with a large collection of photographs of fake coins and a file of information and data on numerous examples, mainly modern, of coins fabricated to deceive collectors. Material of this nature is invaluable to a professional coin dealer, and it is no coincidence that two former employees of the New Netherlands Coin Company, Walter H. Breen and Don Taxay, are avid students not only of false coins but of coin manufacturing techniques employed for making both genuine and counterfeit items. Breen is well known as an author of numerous numismatic articles and reference works and for his activities in the field of rare

U. S. coin authentication. In 1962 I collaborated with Don Taxay on the manuscript of his definitive work "Counterfeit, Mis-Struck, and Unofficial U. S. Coins," and wrote the Introduction for his book. Subsequently, Taxay and I co-authored a series entitled "Counterfeits of U. S. and other Coins Reported," which appeared in the first four 1964 issues of "The Numismatist," and which was later reprinted in "Coin World." Other articles of mine concerning copies and forgeries have appeared in various numismatic publications since 1950. One of them, "Counterfeit Small Size Gold Dollars," published in the March, 1960 issue of "The Numismatist," was partly instrumental in the apprehension, arrest and conviction of the first large size distributor of these European made cast copies in the United States. In March, 1965 I arranged a workshop on false coins in conjunction with the first convention of the Professional Numismatists Guild, and participated at length in the ensuing highly successful program. Upon numerous occasions I have spoken at numismatic conventions, club meetings and other gatherings, on the subject of counterfeits and forgeries. In fact, Virgil Hancock has requested I speak at the "counterfeit forum" to be held here in Miami, during the 76th annual convention of the American Numismatic Association. My name is no secret to the law enforcement officials in the New York area responsible for the prosecution of those who create or traffic in false numismatic material. The approach

to the elimination of the cancer of counterfeiting cannot only be intellectual, it must also be pragmatic. At the present time I am assisting the U. S. Postal Authorities in the pursuit of a criminal indictment against a dealer in foreign coins who recently distributed cast copies of rare twentieth century Italian silver coins throughout the country. Unfortunately, most activities of this kind must be kept confidential because of their very nature, but suffice to say, I participate in every way that I can towards eliminating fake coins from the numismatic market, in educating dealers and collectors towards the detection of such material, and in nullifying the efforts of those who either create such items or profit by handling them.

At the present time, I am the Chairman of both the Authentication and Spurious Coins - Detrimental Practices committees of the Professional Numismatists Guild, Inc., the oldest and largest American rare coin dealer's association. In 1965, I attended the Paris meeting of the First International Congress for the Study Of and the Defense Against Coin Forgery. The Congress established a five man Permanent Commission to implement its resolutions and to carry out its aims. I was offered a seat in that body, as the United States representative, but declined, and accepted instead the position of co-chairman of the Committee on Forgeries of the International

Association of Professional Numismatists. It was, and is, my feeling that I could accomplish much more in the latter capacity.

As a well known professional numismatist long dedicated to the war against fakes and fakers, it somehow seems ironic to me that I should, as a witness, be explaining as an expert coins I and others have sold. On the other hand, it also seems altogether fitting that I can be privileged to speak for that responsible element among rare coin dealers who provide expert authentication of what they sell, but also who know such merchandise.

No single event triggered my exploration of the unknown areas of the Pioneer Gold field more than did my meeting with Paul Franklin in the fall of 1952. Franklin at that time was a resident of New York City but was keenly interested in the American West. For several years prior to our knowing each other he had taken his family on two and three week vacations to Colorado, New Mexico, Arizona, Utah, Nevada and California. A specialist in odd and unusual numismatic items, Franklin had picked up two Mixed Metal assay ingots on his trips. I had catalogued two similar items for Wayte Raymond for inclusion in the 1952 A.N.A. Convention sale catalogue, and had procured another from him. Being interested in the pieces that Franklin had, I purchased both of them. Studying those, and becoming

more and more interested, I asked him if he could obtain others. Once he knew I was serious, he went to work. Paul Franklin had many friends from his Army days in the Southwest, and he also displayed a great knack for making acquaintances and gaining new friends. Soon he had a network of people, including the field employees of a local telephone company, looking for privately made gold coins and assay bars of gold or silver or the mixed metal combination of both. These people scoured Banks and Assay Offices, Jewelry Shops and Antique Stores, not only in Ghost Towns, but in cities the size of El Paso and Phoenix. Franklin joined the Arizona Small Mine Owners Association[1] and advertised in the various mining trade papers and journals.[2] In time I prepared an elaborate circular that explained what numismatic bars and ingots were and which illustrated Pioneer Gold coins, western paper currency, and assay bars. Thousands of these were printed bearing Paul Franklin's name and address and distributed by him throughout the western states.[3] People having items of possible importance were asked to tell Franklin what they had, or, preferably, to send him a pencil rubbing. If an item was of interest to me, I advised him what it was worth and he

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1. Letter, C.F. Willis, State Secretary of the A.S.M.O.A., to Paul Franklin, Oct. 23, 1953 (Appendix item No.1).
2. A typical Paul Franklin advertisement, circa 1953, possibly in "Pay Dirt" (Appendix item No. 2).
3. The third and latest (1966) printing of the illustrated circular on numismatic bars and ingots used by Paul Franklin (Appendix item No. 3).

either sent the money to a friend or an agent so that the piece could be picked up, or else himself flew west on a week-end or over a holiday, and made the purchase directly. In retrospect, some of the early correspondence between westerners and Franklin, and even between Paul Franklin and myself, seems amusing.[4]

We had a good thing going. Franklin found the material and I researched and sold it. Occasionally, something was of particular personal interest and I kept it. Franklin also retained a few pieces, being interested in the relatively inexpensive silver and mixed metal assay bars. Our working arrangement was simple. Our arrangements were made early during our joint operations and under it Franklin was not to tell me where he obtained his material although he was to give me original source names wherever possible for my records. On the other hand, I was not to reveal to him the names of my customers with whom I was dealing. My confidence in Paul Franklin was well founded as, for example, in 1956 he located an unpublished ingot of F. D. Kohler, issued at the State Assay Office in Sacramento and because he paid a nominal price for the piece he gave it to me at his cost plus expenses, since he questioned its authenticity. It was only after the late F. C. C. Boyd insisted that it

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[4] Letters (4): F. Korff, Mesa, Arizona, to Paul Franklin, regarding Blake & Agnell and Blake & Co. items, September, Oct. 18, 1953; S. Skaar, Nevada City, California, to Paul Franklin, regarding J. J. Ott assay bars, n.d., circa 1954-55; Paul Franklin to John J. Ford, Jr., regarding B. Baxter & Co. gold assay bars, November 9, 1952 (Appendix Items, Nos. 4-7).

was genuine, that he would accept from me a generous profit for finding the ingot which I voluntarily offered him. Since a great many of the items he unearthed were unknown and not previously published, it was my responsibility to find out exactly what they were, why and when they were made. In instance after instance, Franklin argued with me, always taking the conservative position. I learned to admire and respect Paul Franklin, and our families became close and good friends. My wife and I are the godparents of one of his children, and the two of us have spent half-a-dozen vacations together with the Franklins.

Early in 1957 Paul Franklin stumbled upon what turned out to be his greatest and most prolific find. This consisted of a hoard of coins and related pieces from the United States Assay Office of Gold, situated in San Francisco, and operative in 1852-53. His initial contact was a teller in a Phoenix Arizona area bank, but eventually he did business with the bank president. In time, he met the owner and source of these USAOG items, an elderly gentleman named Kenneth M. Lynn,[5] who ten years ago resided on a ranch located between Gila Bend[6], and Ajo[7], Arizona. The coin presently owned by Paul Garland was one of

5 The name of the owner and source of the USAOG material is given only on the copies of this report prepared for the members of the Arbitration Panel.

6, 7 The last known resident address of the owner and source of the USAOG material is likewise given only on the copies of this report prepared for the members of the Arbitration Panel. An effort has been made to ascertain the present whereabouts of the owner and source of the USAOG Hoard items. Evidence of this search is confirmed by a letter to John J. Ford, Jr. from attorney Laurence Rosenthal of Strasser, Spiegelberg, Fried & Frank, regarding a cal from attorney George P. Vlassis of Brown, Vlassis & Bain, of Phoenix, Arizona, dated June 26, 1967, and by a letter to Mr. Rosenthal from Mr. Vlassis, dated July 25, 1967 (Appendix items, Nos. 8-9).

seven perfect prooflike twenty dollar pieces, of conventional design, that Paul Franklin obtained directly from the owner on a trip to Phoenix, February 19-23, 1958. These coins, together with three other impaired impressions, were wrapped in three or four old, yellowed linen handkerchiefs. Eight of the pieces had the weight marked in grains on the handkerchiefs in lead pencil; one or more of the coins also had the alloy inscribed in similar fashion on at least one handkerchief. Franklin could not obtain the handkerchiefs, nor could he copy the information marked on them, since the owner was afraid that his family would somehow find out that he was selling coins and realizing funds obtained from them. In spite of the old man's fears and general reluctance to give out information, Franklin managed to make a note that one of the seven perfect prooflike pieces contained .020 Thous. copper, a fact he conveyed to me when he delivered the lot, together with the information that he was convinced that most or all of the seven perfect specimens and probably some of the impaired ones represented experimental alloy strikings.

Franklin had obtained a few USAOG items prior to his first 1958 trip, and on subsequent visits to the Phoenix area picked up others. On a trip West by car during the summer of 1958 he purchased the only steel die in the Hoard, paying the bank president $50. on August 14, 1958, on behalf of the owner. This die was obtained only upon my strong insistence, as were some of the lead trials, because of their great historical value.

It was delivered to me by Franklin at the A.N.A. Convention held in the then Los Angeles Statler Hotel, August 13-16, 1958. I only paid him his purchase price for it, because (1) he had picked it up for me as a personal favor and (2) the die was very badly rusted and corroded, being hardly identifiable. (See D-105, Physical exhibit A-1.) All the USAOG items obtained from time to time, and classified as Essai Coin Ingots, Experimental pieces, Trial pieces, Assay bars, Proofing pieces, and such, were purchased for my benefit. This material continued to be available, on a rapidly diminishing basis, for several years after 1958. I obtained at least one Proofing piece as late as 1962, and I know that Franklin sold another that he had just obtained to Leo Young in September, 1965. Franklin was given the information several times that nothing more was available but he was also told upon numerous occasions that many items had been distributed, over the years, to various members of the owner's family. Apparently, a casual effort was made, from time to time, to recover these as they could be found in order to sell them to us.

Nine years ago, I was told about three octagonal USAOG fifty dollar gold pieces with reeded edges, one of which was stamped with large numeral punches. From the descriptions given to me, I concluded that at least two of these coins were of the conventional 1852 design, and that they (like the seven USAOG twenty dollar coins under discussion) were perfect

prooflike specimens. If so, they would easily be the finest known examples of either the 887 or 900 Thous. varieties. Some time later, a very high denomination ingot having the fifty dollar eagle design was also described to me, the information relayed to me by Paul Franklin from his bank president contact. I of course expressed interest in all four items, but was told that they were not (at that time) available. The three fifty dollar slugs were said to have been given to a son of the owner, who did not wish to dispose of them. The high denomination piece was apparently the cause of some kind of a family dispute over a gift or an inheritance... it even being intimated that some kind of litigation was involved. I long pressed Franklin to try and obtain the large ingot with the coin design, and he repeatedly told me that his banker friend told him that it was not available, but that when it was, that he (Franklin) would be contacted. In spite of the material that still might be available from this USAOG Hoard source, I tried to get Franklin to obtain a statement from the bank executive concerning the name of the owner, thus explaining the source of the various items that had already appeared. Franklin attempted to do so, even to the extent of taking a draft of a letter I had prepared to him, but the banker told Franklin he did not want to get mixed-up with any kind of trouble over the coins and similar material, since it could only compromise his position with the bank. During the long course of the various USAOG

transactions, it seems that the bank with whom Franklin's contact was connected merged into a larger bank, becoming a member of that organization's chain, and that instead of being a president of a small institution, the man was now a branch manager of a local office of the larger bank. It is understandable, how a banker would not want to become implicated with an investigation concerning numismatic items that he had been led to understand were of limited value, particularly since he stressed to Franklin that his present position prohibited any "extracurricular" or unofficial business activities. This attitude, plus my original arrangement with Franklin, combined with his strong reluctance to take any stock in the allegations concerning the authenticity of some of the USAOG material, inhibited Franklin from revealing to me the name of his banker friend and seemingly prevented him from taking me to that gentleman. Of course, it should also be made clear that Franklin has had some personal marital problems during the past two years, and that all things being equal, he has a strong aversion to arguments or controversy of any kind.

In spite of my attempts to learn the name of the agent or middleman in these USAOG transactions, or even to ascertain the present whereabouts of the owner from whom many of them were directly obtained, I must confess a certain lack of enthusiasm in attaching a high degree of importance to pedigree,

especially when a question of genuineness is raised. A pedigree, alleged or otherwise, does not constitute decisive evidence about when or how a coin has been made. Only technical evidence predicated solely upon the fabric and die work of the coins themselves can be conclusive. I have long authenticated coins and conducted business on this basis, precisely because the best history of ownership in the world cannot make, in my opinion, what I otherwise consider a "bad" coin, a good one! Conversely, the lack of a pedigree cannot impair or even challenge the authenticity of a coin, particularly when a long and conscientious effort has been made to examine and test that coin on strict scientific grounds of physical composition, weight, hub and die characteristics, hub and die progression, planchet manufacture and/or preparation, strike or surface. This is even more true when the relationship of such a coin to the components of its manufacture has been favorably researched, and when a solid historical basis for the very existance of such a piece can be readily established.

Not all of the USAOG coins that Paul Franklin obtained in Arizona found their way into my hands or were handled by the New Netherlands Coin Co. He often enjoyed selling or trading lower priced coins on his own, and I mistakenly did not attach any importance to the somewhat damaged or mishandled 1853 900 Thous. USAOG twenty dollar gold pieces, of conventional design,

that Franklin sometimes had for sale. These all came from the Hoard source, directly or indirectly, usually at a cost of $100. each. He sold many of them at prices ranging from $150. to $250. but sometimes obtained higher prices. Occasionally, when he obtained an example that was prooflike and almost perfect, he retained it for his own collection of Pioneer Gold twenty dollar type coins. If something more appealing came along, or if he felt short of funds, he would dispose of the piece in his collection, no doubt on the assumption that he could always pick up another one. Often, when wanting to sell these exceptional specimens he would involve me in the transaction, and the result would be a sale at a relatively high figure. Unhappily, I did not keep any records concerning the regular USAOG twenty dollar coins that Franklin handled from his Arizona find, but I venture an educated guess that the total number did not exceed twenty pieces. Of this number probably no more than half-a-dozen realized in excess of $750., with Harry J. Forman, of Philadelphia, obtaining perhaps the best of the "impaired" prooflike strikes at about $1,800. in April, 1963. This Forman specimen (USAOG-111) was of particularly high quality, and was one of the last Hoard coins that Franklin personally retained and sold. Ironically, to the best of my knowledge and belief, Paul Franklin's own collection does not presently contain a twenty dollar gold piece from his Arizona

USAOG discovery.

I am sorry to say I did not realize until very recently that several of the regular type USAOG twenty dollar gold coins from the Franklin Hoard could also be experimental strikings in various alloy combinations of gold, silver and copper, and thus of far greater value than any of the regular production pieces, of which over two-and-a-half million were struck for circulation.

THE USAOG STUDY GROUP - AN IMPARTIAL INVESTIGATION OF UNANSWERED QUESTIONS

At the 1964 A.N.A. Convention I was questioned by Dr. James O. Sloss concerning a perfect prooflike 1853 USAOG twenty dollars of the 900 Thous. variety he had purchased in February, 1959 from the New Netherlands Coin Co. His coin was one of the seven obtained by Paul Franklin while on a trip to Arizona a year earlier. Sloss was very much concerned about the original origin of his piece, and was quite distressed when I could not answer some of his queries. Dissatisfied with my response, Sloss apparently became suspicious of his coin, and

decided to investigate its authenticity. To this end, and to examine similar specimens, he enlisted the help of George J. Fuld, Abe Kosoff, Eric P. Newman, and John J. Pittman. These gentlemen have been referred to as the USAOG Study Group. Shortly after the formation of this group, the investigators brought in two additional Franklin Hoard coins. One of these was similar to the Sloss example, and like it was one of the seven brought back by Franklin from his trip of Feb. 19-23, 1958. It was owned by Paul Garland, then a resident of Melvindale, Michigan. The other, a coin of lesser quality, was one of the handled or slightly impaired pieces lacking full proof brilliance of the sort that Franklin generally sold himself. This piece was owned by Herbert Tobias of Brooklyn, New York. Soon after the inclusion of these additional pieces into the investigation, Fuld, at that time associated with the Research Division of the Goodyear Tire & Rubber Company in Akron, Ohio, decided to test all three coins at the Goodyear plant. Using three regular USAOG coins for control purposes (Newman Nos. 2, 3, 4), Fuld had tests performed on the three aforementioned Franklin Hoard pieces (Newman Nos. 5, 6, 7). The Fuld sponsored tests consisted of X-Ray diffraction photographs using back reflection techniques. The photographic prints from these tests were interpreted to show that the planchets for the control coins had been rolled and drawn, but that two of the Franklin Hoard

coins were struck upon planchets that had been produced by casting, while the third was struck upon a machined planchet. George Fuld did not wait to have his tests substantiated. He did not bother to try and understand their significance, even if they had been verified. As far as he was concerned, the word "cast" was in the reports, and "cast" was a dirty word. Accordingly, he wrote a letter to Werner Amelingmeier, a customer of mine, and a friend of long standing. (At one time I had told Fuld that Amelingmeier knew Franklin, and that he had purchased some of the mishandled USAOG coins.) The Fuld letter to Amelingmeier, written on September 30, 1964, was a rash one.[1] I would like to quote parts of it: "A number of independent 'experts' are reexamining the so-called 'Proof' and first strike 1853 U. S. Assay Office 900 fine $20 pieces. These pieces, of which you owned several of (sic) in 1958 are 'counterfeits' - (I only can speak of the ones so far seen and examined!) - however the most horribly deceptive we have ever seen.... Please don't discuss this with John Ford, although he is aware of the investigation." Amelingmeier passed this letter on to me, and I in turn gave it to our attorneys. They in turn wrote to Fuld, suggesting he not write any additional letters in the same vein.

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1 Letter, George J. Fuld to Werner Amelingmeier, September 30, 1964 (Appendix item No. 10).

Fuld, in the meantime, presumably advised Garland that his coin was struck upon a cast planchet. Garland was then writing a column for the "Blue Ridge Coin News," entitled "Numismatic Garlands." Using the formation of the Study Group and the latest intelligence from Fuld as a theme, Garland composed a rather vociferous article for the November, 1964 issue.[2] While most of what he had to say is of minor importance, some of that column should be reproduced here since it refers directly to the subject coin at hand. Garland started out with a question: "Have you ever purchased a coin that exceeded more than a thousand dollars in value?.... How would you feel if you made a purchase of this nature and later found the coin to be counterfeit?.... My thoughts tell me you would answer the foregoing question by saying, 'I would have the coin authenticated.' Now, I must ask you where would you have the authenticating done? More than apt (sic) your answer would be a major coin dealer. Let me tell you this. There are no coin dealers in this country capable of determining authenticity. They do not have the costly X-Ray equipment on hand to do the job. To anyone who has found himself in the above position, I have a few words of advice. If you purchased the coin and accepted a piece of paper attesting to the genuiness of the specie (sic), regardless of who issued the paper, I would have the coin X-Rayed. This is the only way to know for sure that

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2 Newspaper clipping, "Numismatic Garlands" by Paul E. Garland, pg. 2, "Blue Ridge Coin News," November, 1964 (Appendix item No. 11).

your coin is genuine.... To those of you who doubt me, let me make it clear that there are counterfeit coins on the market today that no dealer can detect without the aid of special equipment. This equipment costs far beyond the means of the largest dealer in America.... I have seen false coins from the foremost validators known. In fact, I am the not too proud possessor of a false coin that I paid three thousand, three hundred dollars for. It is as false as Henstecth. This coin has a pedigree all the way back to the press. It was declared genuine by the best known house of authentication in our country. In fact, it was declared a proof. It has passed through the hands of several of the best known and trusted dealers in our country. Other pieces are now resting in the collections of some of America's best collections (sic), with the owners totalling (sic) unaware that the pieces are counterfeit.... Together with John Pittman, Dr. George Field (sic), Eric Newman, and several other of the best known Numismatists in the country, we have been able to prove that the coin is false. Several letters have exchanged hands, threatening law suits and other attempts to silence us; but the public will know the facts." Garland went on in his tirade to reveal that Fuld was planning to speak about his coin at the Educational Forum of the New York Convention of G.E.N.A., the first week-end in December. He also went on to say that "it would be possible to reveal the entire story now, but as yet we do not know definitely who made them."

Garland also stated that two additional pieces were to be examined, and if the owners did not voluntarily cooperate, "they will be requested to do so by government agents." Fuld never did make his speech of revelation at the Educational Forum of the Great Eastern Numismatic Association's Convention, but he did try to bring government officials into the controversy, possibly in an attempt to lend credence to some small portion of the Garland article. On November 17, 1964 Fuld turned over several USAOG coins he had in his possession to the Cleveland, Ohio office of the Secret Service, much to the distress, if not the anguish, of his fellow investigators. Fuld, in turning the coins in, claimed that they were counterfeit, or at least that some of them were. Subsequently, the Secret Service returned the coins, having received a ruling from the General Counsel of the Treasury Department that the coins were not obligations of the United States government,[3] and that they therefore had no jurisdiction in the matter.

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3 Despite the ruling of the General Counsel of the Treasury Department it is a well known fact that the United States Assay Office of Gold operated under the provisions of a bill passed by the 31st Congress, September 30, 1850, its function being that of a provisional (and irregular) U. S. branch mint. It is of the highest significance that the coins issued by Augustus Humbert (as United States Assayer) in 1852-53 bore the legend UNITED STATES OF AMERICA. That was legally interpreted, then as now, to mean that the United States government stood behind these coins as issuing authority. It has been long established that the USAOG equipment was taken over in October, 1853 for official branch mint usage, and that on the whole this equipment had been furnished originally by the Philadelphia (parent) Mint. In the National Archives can be found regular monthly reports of the USAOG, signed by Humbert as U. S. Assayer, which are of the same kind as those furnished by superintendents of the other U. S. branch mints then in operation in New Orleans, Charlotte, North Carolina, and Dahlonega, Georgia. (See National Archives: Records of the Bureau of the Mint, Record Group 104, Treasury Section.)

While Garland and Fuld were preoccupied with the possibilities of official intervention into the USAOG situation, the founder of the Study Group was also busy. One evening, Sloss called Charles Wormser at his home, and in a lengthy conversation told him that his business associate of almost fourteen years standing had involved New Netherlands Coin Co. in the sale of false coins. Needless to say, Wormser was quite upset by this conversation, as Sloss had long been a client of ours, and the both of us thought him a friend. A day or two later I telephoned Sloss, and in the course of our discussion offered to take back his perfect prooflike USAOG twenty dollar coin, refunding to him the $1,200. he had paid for it under the New Netherlands policy of Unconditional Guarantee. My offer was qualified only to the extent we would accept the piece back if it were agreed in writing we did so without prejudice to the coin. In other words, we agreed to take back the coin and refund the purchase price on the premise that Sloss was dissatisfied, but under no circumstances were we prepared to do so if the claim was predicated upon the contention the piece was fraudulent. Sloss balked at my suggestion, and when I asked him why he did not accept it, the candid reply was "What if the coin turns out to be good?"

Shortly after the Study Group was formed I was contacted by Eric P. Newman who asked if I would cooperate with the group's investigation. Being assured that the inquiry would be

professional and be conducted fairly and impartially I agreed to help to any reasonable extent. In this connection, I sent Newman specific information relative to the discovery of the seven perfect prooflike USAOG twenty dollar pieces by Franklin. My letter was quite explicit and included some data I had previously kept confidential.[4] At about the same time, I also sent Newman six lead trial pieces of the USAOG from the Franklin Hoard (Newman Nos. 20-25) for his examination and so he could photograph them. Newman and I exchanged several phone calls and letters during the fall and winter of 1964-65. It was my hope we could continue the exchange of information and perhaps reach a similar decision. However, Newman seemed enigmatic. He said he could not tell me what the other group members were doing. He told me he could not disclose any of his own theories or interim conclusions. I proposed we get together at my home where I had considerable information not otherwise available to him but he reacted disinterested. He visited New York City but made no serious attempt to see me. His actions were a mystery to me, until I reflected upon the activities of his compatriots and those of Garland, and slowly was forced to conclude I had no hope of participating with him in any fair or unbiased professional inquiry.

Fuld and Sloss had quickly shown their colors, and now Newman was subtly disclosing his. The coins were prejudged

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4 Letter, John J. Ford, Jr. to Eric P. Newman, October 11, 1964 (Appendix item No. 12).

bad from the start, and the "investigation" in reality consisted of searching out (or fabricating) evidence needed to corroborate such conclusion. Upon realization I was confronted with a mock scientific inquiry, I was forced to revise my plan of full cooperation and thereafter not furnish additional information or coins from which unilateral conclusions would be privately reached only to be used against me.

It was suggested Franklin was the culprit and I a fellow criminal or at best a dupe. Franklin resented the veiled and unveiled charges and innuendos directed against him and wrote a letter to me deploring what was going on.[5] I even promptly sent a copy of the pertinent part of this letter to Newman,[6] who did not know Franklin at all and who had relied upon rumor and hearsay. It had been my hope, now proven vain, that Newman would sense Franklin's sincerity, and possibly attempt to better understand him if not to communicate with him. Newman was not moved. He had already made up his mind and he wanted not to heed any unsettling factors.

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5 Letter, Paul Franklin to John J. Ford, Jr. (first two pages), November 23, 1964 (Appendix item No. 13).

6 Letter, John J. Ford, Jr. to Eric P. Newman, December 3, 1964 (Appendix item No. 14).

While it was obvious to me some of the Study Group members sought instant publicity by a quick and easy path it was equally easy for me to understand what might have prompted sincere action by some of the group participants. Both the perfect and the so-so prooflike Franklin Hoard USAOG twenty dollar coins did not resemble any other gold United States proofs known to them. Specifically, these coins appeared peculiar in comparison with the only other 1853 USAOG twenty dollar Proof extant, the piece purchased by Abe Kosoff at the 1954 sale of the Farouk collection.

The Kosoff Proof, listed by Newman as his No. 12 (my USAOG-123) has long interested me, probably because of its peculiar characteristics. Careful examination of the obverse reveals that it emanated from the very late or final state of the much used obverse matrix, that having a wide 900 over 880 (used for hub Groups IV through X). LIBERTY on the ribbon is thin and distorted; there are obvious signs of lapping at 900 THO; the A's have imperfect crossbars; there is considerable over-all evidence of corrective hub and die work (grinding and/or lapping, recutting). Last but not least, there are suggestions of the use of a graver on the die on the I of UNITED, and, as I mentioned later, it is obvious an attempt was made to efface the diagonal die scratch just right of the second A in AMERICA on the hub. Like the obverse, the reverse of this piece was struck from a die that originated with a matrix that had seen better

days. This workhorse was probably responsible for every working hub sent from Philadelphia to San Francisco, the chip under the right arm of the T of UNITED being its hallmark for at least four (and possibly five) of the working hubs used by Humbert in the USAOG. The tablet frame line dent below the F of CALIFORNIA can also be made out, although an obviously crude attempt was made to flatten it out, rather than to reduce it with a graver on the die. (As I later state, this frame line dent originated either on an original hub or even on an original tablet puncheon which would be raised or positive.) The field area about the periphery of this reverse shows serious tiny chips or rust pits not found on any other example of an 1853 USAOG twenty dollar coin examined. The tablet with its four lines of inscription has been extensively ground down and lapped. The right stroke of the Y in ASSAY, the base of the C and the left part of the triangle of A in CALIFORNIA, are all missing. There are heavy extra outlines around numerous letters and at 53, suggesting considerable work not only on the die used to strike this coin, but on the hub used to produce the die. A comparison with the outline to the left of the 5 in the date with the original matrix impression in copper in my collection (USAOG-125) discloses a remarkable similarity. All signs of what I will call the "circumferential" break at right together with any other break evidence or defects inherent to the matrix were removed from the hub but the chip under the T was not, presumably because

it was as deep as any letter, and its removal would have resulted in severe damage to the adjacent letters (similar to the obvious damage done to the Y, C and A, already mentioned). It is not surprising to me this coin does not look like the Franklin Hoard prooflike coins... indeed, why should it? This "genuine Proof" (as one of the Study Group members called it) was made in Philadelphia, probably circa 1858-59 when restriking and similar operations were the order of the day. The truth of the matter is, I doubt if this restrike ever saw California until Abe Kosoff owned it.

Edgar H. Adams, writing in the April, 1909 issue of "The Numismatist," also thought the Kosoff Proof was made at the Philadelphia Mint but he came to his conclusion for different reasons than I did. Many wild and unverified stories have been heard concerning this coin, so many in fact that I long thought more than one specimen existed. However, my research to date suggests all of the tales are concerned with just one piece, proving that this unique item has a long and interesting history. It first appeared as lot 397 in the collection of George F. Seavey, of Cambridgeport, Mass., and was sold by Bangs, Merwin & Co. at their sale of June 21-22, 1864. Thirty-eight years later it was offered as lot 532 at the Lyman H. Low auction of the Herr Georg F. Ulex collection from Hamburg, Germany. This sale took place on July 8, 1902, and cataloguer Low, in hurriedly looking at the coin and noting

the peculiarities about the 3 of the date, wondered if it might be "1853 (over 52?)." It was "rediscovered" early in 1909 by New York dealer David Proskey who soon after sold it to the biggest "live buyer" of the period, Waldo C. Newcomer of Baltimore, for $100. This splendid example of Adams 23[7] was number 2734 in the Newcomer inventory. After Newcomer's unfortunate death, B. Max Mehl handled the gold portion of his collection including the Pioneer Gold coins. Mehl priced the Kosoff Proof at $350., reduced it to $250., and finally sold it at the "special price" of $100. to Wayte Raymond, December 14, 1933. Raymond promptly sold it to his prime customer, Col. E. H. R. Green. Green died in 1936, and the coin found its way into the hands of Jake Bell of Chicago, possibly through the offices of St. Louis dealer B. G. Johnson. It was lot 1043 in the Stack auction held of the J. F. Bell collection, December 7-9, 1944. Morton Stack, in preparing the catalogue for that sale, also believed the piece to be an overdate. From the Bell offering at $825., it went to King Farouk of Egypt, reappearing as lot 349 in the Palace Collections of Egypt, sold by Sotheby & Co. thirteen years ago.

As earlier shown, the activities of the Study Group convinced Garland his coin was false. Accordingly, he made a determined effort to return the piece and to have his purchase

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7 pg. 56, "The Moffat & Co. Issues, San Francisco, 1849-1853," Part II of "Private Gold Coinage of California," Edgar H. Adams, Brooklyn, N.Y., 1913.

price refunded. Garland had purchased the coin from Tommy Ryan of Chicago. Ryan did not consider the piece to be spurious, and refused to refund Garland the money paid for it. This particular specimen was the fourth one sold (of the five that were disposed of) from the group of seven perfect prooflike examples Paul Franklin obtained in 1958. It was initially sold by us to Mike Kolman at the A.N.A. Convention in Los Angeles, August 15, 1958, for $1,200.

Not being able to obtain a refund from Tommy Ryan, Garland took his problem to the Professional Numismatists Guild, of which Ryan is a member. The P.N.G. went to considerable lengths to resolve the situation to the satisfaction of both parties but was unable to do so. Accordingly, an Arbitration Panel was formed, under P.N.G. auspices, to decide the dispute between Garland and Ryan. The three members of this Panel are Herbert M. Bergen, Second Vice President of the A.N.A., Ronnie Carr, like Bergen a Californian and interested in Pioneer Gold coins, and Lester Merkin, the well known New York dealer.

At a hearing of this Arbitration Panel at the A.N.A. Convention in Chicago, August 19, 1966, Eric P. Newman, allegedly as an expert and purportedly representing the Eric P. Newman Education Society (which incidentally has no position in this controversy or in anything else as an

expert) and proposing to speak for the USAOG Study Group members present, read a report entitled "An Inquiry into the Authentication of a Hoard of $20 United States Assay Office Gold Pieces." Let us examine that so called and self styled report.

THE NEWMAN REPORT - SUBSTANCE AND PERIPHERAL CONTENTIONS

Newman's report on the Garland owned 1853 USAOG twenty dollars from the Franklin Hoard and five similar pieces is seemingly a study of disorganization and confusion. Much appears to have been intentional for the purpose of making analysis and reply unnecessarily difficult. On page 2 of his Inquiry Newman said he was "avoiding the use of names of individuals to the extent that a full disclosure of facts will not be adversely affected." In my opinion, the names of individuals were left out of the Newman report so that it would be next to impossible to identify the owners of the coins that the Newman conclusions were based upon.

One of the most ludicrous non-technical statements in the Inquiry can be found on page 3. There he says "Any opinion expressed must be based upon certainty, and for that reason facts relating to inconclusive findings or speculation

as to facts will be omitted...." All logic is contrary to this remark. Opinion evidence is, and is always by its very nature, not based on certainty but on opinion. Facts, all facts, should be sought and their significance sifted and weighed in formulating the final act which is the opinion.

Further along on page 3 Newman refers to an ad in the July, 1963 issue of "The Numismatist," and to a letter which appeared in the August, 1963 issue of the same magazine. The advertisement referred to bore the name of Louis S. Werner, the New York dealer, and the letter mentioned was mine written in reply to Werner. For reasons of his own, Werner wanted to "buy" an USAOG twenty dollar coin in "Gem Proof Mirror Surface Condition." My letter was an effort to set the record straight should there have been any confusion engendered by the Werner ad. While my letter contained much that I still believe to be factual and correct, I mention it here only because it might suggest I thought at that time that all 1853 USAOG 900 THOUS. twenty dollar coins were from the same pair of working dies. If this was indeed an early failure to distinguish between two wholly hubbed working dies (like two large cent reverses of 1851), or evidence of the inability to recognize a Philadelphia Mint restrike, I trust the contents of these pages will rectify such error.

Newman, on page 4 of his Inquiry, makes much of various USAOG twenty dollar coins having been described or advertised as "proofs." Whatever the origin of these pieces, how they were described or advertised is not relevant to their genuineness. Reliance on advertising descriptions by sundry dealers is tantamount to ascribing to them a degree of specialist knowledge not necessarily possessed or available to them.

On page 5 of his Inquiry Newman observes that the listing of the 1853 USAOG 900 THOUS. twenty dollars on page #225 of the 19th edition (1966) of the Whitman "Guide Book of United States Coins," was accompanied by the comment, "Beware of spurious specimens in 'Proof' condition." He goes on to say that "This statement was inserted in the 1966 Red Book on the recommendation of a panel of 13 named advisors (p. 213) on U. S. Territorial Gold, all of whom were informed of the proposed statement before its insertion and no objection to it was then raised. The statement, however, was removed from the 1967 edition of the Red Book." Here we have a real comedy of Newman errors. It is true the quoted statement appeared in the initial printing of the 19th edition of the "Guide Book," but as soon as I saw it there I telephoned Dick Yeoman and insisted upon its removal. My name is on page 213 of the 1966 "Guide Book" as one of the panel members, and Newman well knows I

would have only the most violent objections to such a statement. He is also aware, I am sure, that the majority of the panel members named would have voiced similar objections had they been informed of the exact nature of the proposed statement at their meeting, which took place at the Statler Hilton Hotel in Los Angeles in February, 1965. The Kagin brothers had just purchased one of the seven perfect prooflike pieces from the Franklin Hoard, the three members of the firm of Stack's had handled others. Leo A. Young could not have shared the sentiments expressed, as he purchased a Proofing piece from Paul Franklin three months after the 19th edition of the "Guide Book" appeared. I doubt if Walter Breen would have swallowed the implications of such a statement at that time without requiring substantiation. I doubt very much if Newman polled any of the other panel members as to the nature of their sentiments. If he did question any of them, he could never have made the presumptious observation found on his page 5.

Even if it were correct, the Newman reference to the unfortunate insertion in the 1966 "Guide Book" is totally irrelevant, since it calls for conclusions of purported fact reached on the basis only of an expression of apprehension, or the calling for conclusions of falsity of a coin on the basis of someone's anxiety about possible existence of

counterfeits (none of which have ever been responsibly identified). How Newman hoped to influence or prejudice anyone by this immaterial distortion is beyond my comprehension.

A minor Newman misstatement is found on pages 5 and 6 of his report. He is in error saying "In making the dies for 900 fine pieces the 900 was punched over the 884 in the die and evidence of such overpunching is readily noticed on every 900 fine gold coin." Only three obverse hubs can be identified for the 1853 USAOG twenty dollar regular issue gold coins, and they are: (I) 884 over 880 THOUS.; (II) Narrow 900 (THOUS.), these numeral punches as on the ten dollars; (III) Wide 900 over 880 THOUS. These belong, respectively, to hub Groups II, III, and IV through X. Clearly, any original obverse matrix prepared bore the 880 THOUS. inscription.

On page 6 of the Inquiry Newman concerns himself with the appearance of four of the six Franklin Hoard gold coins he examined: "Coins #5, 7, 14 and 16 are glittering pieces, far shinier than normal proofs of the period and not as mirror-like. Coins which have been cleaned or polished subsequent to striking are sometimes found with similar patina, but original strikings of United States coins are not. This makes it appear that an attempt has been made to produce an artificial proof surface rather than that the coins are normal proofs."

The seven perfect prooflike USAOG coins that Franklin delivered to me nine-and-a-half years ago were all washed in warm soapy water, rinsed in cold water, and then air dried. I performed this operation myself a few days after the coins were brought to my home because they were dullish in appearance and extensively fingermarked. They received no other cleaning, chemical or otherwise, nor were they involved in any kind of processing treatment while in my hands.

According to Newman, three of these same coins, the Garland, Sloss, and Kagin specimens, plus the exceptional Franklin Collection example now owned by Forman, all have artificially produced proof surfaces made after striking. Examination of the two perfect prooflike pieces retained for my personal collection with my Bausch & Lomb Stereo-Zoom binocular microscope fails to bear this out. I found no signs of buffing on the high relief details, nor did I see any of the signs of surface polishing that I learned to recognize several years ago when dealing with "home-made" 1936 and 1937 U. S. proof sets. In fact, the appearance of my two coins was that of impressions upon highly burnished planchets from partially lapped dies. Burnished planchets and lapped dies are, of course, pre-striking procedures.

In his statement on these so-called "glittering" pieces, Newman uses the term "normal proofs" rather freely

without any explanation of its meaning, implied or otherwise. He also mentions "original strikings of United States coins," saying, in effect, that such strikings do not look like the Franklin Hoard prooflike examples. Let us see if Newman actually knows what he is talking about.

A basic or simple numismatic definition of the term (brilliant) "proof" is not difficult to conceive. Let us say a proof, generally, is a coin struck upon a polished planchet from polished dies, the result presumably representing the finest impression possible from those dies under the circumstances. In other words, a proof coin is basically the end result of a special coin manufacturing technique. It is not a state of preservation, or a degree of condition. When most American collectors hear the term "proof," they tend to think of Philadelphia Mint made proof coins, since the parent mint is where U. S. proof coins have long been normally manufactured. In short, the general concept of a United States gold proof coin is that it should be identical in fabric and appearance to a Philadelphia Mint proof of standard 1858-1907 quality. In this important instance, this idea is erroneous, and Newman has trapped himself by his lack of experience in the Pioneer Gold field.

Earlier, I said the United States Assay Office of Gold operated as a provisional (and irregular) U. S. branch

mint. This being the case, why should their idea of specimen coins, struck under comparatively primitive conditions, resemble those of the Philadelphia Mint nearly three thousand miles away? The Franklin Hoard prooflike or specimen coins should not be compared to gold proof coins of the 1850-60 period struck in Philadelphia, but to other Humbert or Assay Office pieces which we believe represent the ultimate quality Humbert was capable of, or that he thought satisfactory of his purposes.

Sixty-six years ago, the Chapman brothers of Philadelphia were busy handling the numismatic portion of the Augustus Humbert estate. I have traced four different coins they disposed of privately, and found a fifth listed in the S. H. and H. Chapman auction catalogue of the William R. Weeks and Augustus Humbert collections, May 1-2, 1902, similar in appearance and quality. The five pieces are:

(1) 1852. Ten dollars. MOFFAT & CO. Liberty head. Rev. Eagle with shield holding ribbon, scroll above. This was lot 707 in the Weeks-Humbert sale, and was catalogued as a "Superb brilliant proof." It was purchased by Virgil Brand for $60., and upon his death passed into the hands of his brother, H. L. P. Brand. When Horace Brand died in 1962, this piece was

obtained by the late Robert Friedberg from his heirs, and subsequently consigned by the Capitol Coin Co. to the Schulman-Kreisberg auction sale of March 18-20, 1964. It was there listed as lot 2204, and was described as "A flawless gem prooflike specimen." I purchased the lot for $2,300.

(2) 1852/1. Twenty dollars. AUGUSTUS HUMBERT. / UNITED STATES ASSAYER/ OF GOLD. CALIFORNIA. Hub Group I. This was lot 356 in the catalogue of the collection of A. C. Zabriskie, sold by Henry Chapman, June 3-4, 1909. It was described as being Humbert's own specimen, and called a "Brilliant proof." At the Zabriskie sale it was purchased under the code name "Deem" for $360. This coin is now in the J. W. Garrett collection at Johns Hopkins University.

(3) Another specimen, similar to, but different from the last. This coin was lot 1058 in the Dec. 7-9, 1944 Stack auction sale of the J. F. Bell collection. In that catalogue the coin was described as follows: ..."Struck in Brilliant Proof. The original Augustus Humbert

piece sold to Capt. Zabriskie then to Col. Green and to Mr. J. F. Bell. This piece is absolutely unique in this condition." At the Bell sale it was purchased under the code name "Major" for $850. This coin is presently the property of Alfred Walter of San Francisco, and has been consigned to the New Netherlands Coin Co. for sale.

(4) 1852. Ten Dollars. AUGUSTUS HUMBERT; of the style of the two preceding. This was lot 358 in the Zabriskie catalogue of 1909. It was also described as being Humbert's own specimen, and called "Brilliant Uncirculated." At the Zabriskie sale it was purchased by Fink for $101. Subsequently, it found its way into the W. C. Newcomer collection, where it was called a "Proof," and the notation made that the "Overdate was not very plain." Newcomer paid $150. for this piece, and gave it his inventory number 2651. When B. Max Mehl handled the Newcomer Pioneer Gold coins he made up two lists. In one he called this Humbert owned coin a "Proof," and in the other, a "Semi-proof." As one or the other, it was sold to

Wayte Raymond for $150., December 14, 1933, the same day that Raymond purchased the Kosoff Proof USAOG twenty dollars.

(5) 1853. Ten Dollars. UNITED STATES / ASSAY OFFICE / OF GOLD. Allegedly from the Humbert collection. This piece has been described to me as being a "Semi-proof." It is also in the J. W. Garrett collection at Johns Hopkins University.

I have either examined the actual specimens of these coins or high quality photographs of them. All have been called "Proof" or "Semi-proof" at one time or another, as have the Franklin Hoard coins. Some, like the Franklin Hoard USAOG twenty dollar prooflike pieces show traces of die rust or minor pitting. Both those coins traced directly to Augustus Humbert and the Franklin Hoard coins appear to have been struck upon burnished planchets by lapped dies. The amount of planchet and die polishing and/or lapping varies from specimen to specimen in both instances, but the coins match up into remarkably parallel groupings. No coin from either the Humbert estate or the Franklin Hoard resembles a Philadelphia Mint gold coin proof by virtue of fabric, appearance or quality. If any coin did, I would consider its California origin questionable, and wonder if James Ross Snowden had it made rather than Augustus Humbert.

Those who have carefully read the report compiled by Newman will note several contradictions. One of these might be mentioned here. As I have said, on page 6 of the Inquiry Newman mentions coins "which have been cleaned or polished subsequent to striking." Yet on page 12 of the same document, in his glib explanation of how the Franklin Hoard twenty dollar coins might have been made, Newman says something else: "To make glittering coins from these dies the field can be polished easily because the design is recessed in the die and then polished or unpolished planchets may be used depending upon the sheen required." In both instances, Newman is speaking of the prooflike Franklin Hoard pieces, specifically, four of the six coins he studied. What process does he want us to believe was used? Does he know how the coins received their prooflike appearance, or is he grasping at straws, hoping that if totally different contingencies are mentioned, he is bound to be correct with one of them? Does he really believe he can have it both ways?

On page 8 of the Newman Inquiry we are told six Franklin Hoard twenty dollar pieces examined were struck in a collar producing 170 edge reeds. This, in comparison with regular production coins also examined by Newman, which were struck in a collar producing 162 edge reeds. Four pages later Newman tells us how a collar can currently be made: "If the

edge of the coin is reeded a separate collar die must also be produced and an automatic gear hobbing or broaching machine can readily cut a shape needed to form it." On page 13 of the Inquiry, we are advised that the person otherwise capable of near miracles in the production of the Franklin Hoard coins was a failure in one area..."he must have failed to count the reeds on the collar of the original coin and cut a collar in a broaching machine with 170 instead of 162 reeds in it."

Newman's references to a 170 reed collar as evidence of different origin for the Franklin Hoard USAOG pieces is no proof, and is based on the false premise that Humbert's operation used only one collar with 162 reeds. The examination of any 1852/1 Humbert twenty dollar coin (including AH-100, the third Humbert prooflike item earlier described) reveals that a 150 reed collar was used to produce the (approximately) 7,500 examples of this type struck. One of the lead trials from the Franklin Hoard (Newman No. 24, my No. TGT/P-110) was struck in a collar with 148 edge reeds. According to Walter Breen, one of the two piedfort fifty dollar gold pieces in the Franklin Hoard (No. TG-121, which see) was struck in a collar having 173 edge reeds. Various U. S. twenty dollar gold coins examined have different edge counts. While an 1852 Philadelphia Mint piece had 162 edge

reeds, later dates were found to have 169 and 172 reeds. San Francisco Mint examples dated 1856 and 1860 had 154 edge reeds, although coins dated 1855 and 1857 from the same mint had 155 edge reeds. Making a grooved or reeded collar in 1853 was easy, a skilled workman using only a triangular file could have produced one. Or, if available, a clockmaker's gear cutting machine could have been used. Regardless of how made, the only conclusion possible from my edge count studies is that different coining collars were produced as needed. Confirmation is available from other U. S. denominations: the 1876 "CC" twenty-five cents is regularly found with 119 edge reeds, as are surrounding dates, but a small minority of this issue exists struck from a collar having 153 edge reeds; the regular collar used on the 1921 Morgan silver dollar has 188 edge reeds, but three specimens seen out of a hundred have 154 edge reeds.[1] Franklin maintained from the beginning that at least his seven perfect prooflike USAOG twenty dollar coins were experimental pieces in different alloys and not regular issues. If they are indeed alloy trials would they have been struck with the equipment used for striking production coins? If they were made in that section of the Assay Office of Gold responsible for Essais, Experimental and Trial pieces, would not different manufacturing tools have been available?

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[1] The 1921 Morgan dollar with 154 edge reeds was discovered by Dr. W. Q. Wolfson and has been called the dollar struck with the "P.I.R." (Philadelphia Infrequent Reeding) collar.

I wrote Walter Breen many months ago for an enumeration of U. S. coins of which collar varieties existed within a single year. In reply, he sent me a two page listing.[2] I was surprised at the large number of Patterns and related items for which collars of different sizes (and thus invariably different numbers of edge reeds) were utilized. Newman suggests, on pages 13 and 14 of his Inquiry, that the edge reeds on USAOG twenty dollar coins should be counted "as the surest method to diagnose a $20 USAOG reproduction." Might I suggest that instead of identifying a "reproduction," that this eye straining chore be employed as a positive method of recognizing an experimental alloy striking?

In the first part of the next section of this paper I outline the steps alleged by Newman to have been used to fabricate the Garland (and other Franklin Hoard) coins. The third step described involves the use of centrifugally cast steel to make the actual dies from which the coins were initially struck. If obverse and reverse dies can be made by precision steel casting, can last ditch adherents of the Newman arguments explain <u>why</u> similar methods can not be used to produce a collar? Surely the occlusions and porosity inherent to cast steel would be less discernible on the reeds produced by a collar than on the surfaces of a coin impressed with cast steel dies. It

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[2] Letter, with listing, Walter Breen, Institute of Numismatic Authenticators, to John J. Ford, Jr., February 13, 1967. (Appendix item No. 15).

requires a minimum of 110 tons per square inch, or a total striking pressure of at least 155 tons to strike a double eagle, according to E. V. Crane.[3] If Newman's cast steel dies could be hardened to withstand this pressure, why couldn't a cast steel collar?

Early in my reexamination of the Franklin Hoard material I photographed the edges of four USAOG twenty dollar coins, three of which originated with Paul Franklin. One photograph illustrates the reeding of USAOG-100, my silver strike from hub Group IX dies, and the reeding of USAOG-102, one of the two perfect prooflike pieces I retained from hub Group V dies. The second photograph illustrates the reeding of USAOG-114, the famous "Tobias" coin from hub Group VII dies, and the reeding of USAOG-116, a well circulated regular piece from hub Group III dies. The first three described were, of course, struck from collars having 170 edge reeds, the last from a collar having 162 edge reeds. In order to be in focus at the extreme focal length (distance between lens and film) at which these photos were taken, the edge of each of the two coins (in either picture) had to be on a perfect horizontal plane with its companion. Therefore, either pair of edge reed enlargements have been photographed at an identical degree of magnification. From careful examination of these four USAOG coin edges two important conclusions can be quickly reached. To begin with, the quality of the edge reeding shown does not

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3 pg. 244, "Plastic Working of Metals and Non-Metallic Materials in Presses," E. V. Crane, Ph. B., M.E. Third edition, New York, N. Y. and London, England, 1944.

necessarily suggest the precision tooling of a collar or collars by a modern "automatic gear hobbing or broaching machine." Secondly, it is quite obvious that two, possibly three, different collars were used to strike the three different Franklin Hoard USAOG twenty dollar coins enumerated. Are we also to believe that Newman's mythical forger made extra collars to add to his expensive collection of four different hubs, fifteen or more different working dies and four different alphabets, plus the multiplicity of other items he had to have to produce the Franklin Hoard material?

On pages 8 and 9 of the Inquiry, Newman discusses the USAOG twenty dollar coin owned by Herbert Tobias (his No. 6, my USAOG-114). It is believed that Tobias obtained this piece from Franklin directly, as it is not one of the five perfect prooflike specimens handled by the New Netherlands Coin Co. In describing the obverse of the Tobias coin Newman says that "under magnification...the right and bottom portions of the field...are completely filled with a large number of sweeping curved lines. These lines are very close together and are separated by identical distances. These lines are not arcs formed from the same center point but are a part of a perfectly uniform spiral or helix (sic) with the center point of the coin as a center." After describing the peculiar design on the Tobias piece, Newman goes on to explain how a lathe

equipped with an automatic cross feed device works, and then reasons that the described spiral design could not have been in the obverse die from which the coin was struck, but could only of have been on the planchet of the Tobias specimen before it was struck. He finalizes this theory with a statement that "The planchet therefore was produced by a lathe in a most abnormal manner." Newman's tortured reasoning concludes with the inference (page 9) that the Tobias coin must be false, as its planchet could only have been produced by a lathe equipped with an automatic cross feed device, this component not being available on lathes in America in 1853. On page 13, he makes his inference a statement of fact as he describes the hardships of his alleged forger: "He seems...to have tried cutting the planchets on a modern lathe with an automatic cross cut mechanism."

Shortly after first hearing about an "automatic cross feed" device for lathes at the Arbitration Panel meeting in Chicago, I found myself browsing through a booklet titled: "A Short History of Machine Tools."[4] Two illustrations and their captions quickly caught my eye: on page 114, illustration No. 50 was captioned "Joseph Whitworth's automatic cross feed for lathes, 1835;" opposite page 117, illustration No. 53 bore the

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[4] "A Short History of Machine Tools," L. T. C. Rolt, The M.I.T. Press, Massachusetts Institute of Technology, Cambridge, Mass., 1965.

caption - "Lathe by Joseph Whitworth with automatic cross feed, 1843." Fired by these promising leads towards demolishing the positive Newman statement "based upon certainty," I wrote the publishers of the Machine Tool booklet in an effort to contact the author. Surprisingly, this gentleman, a Mr. L. T. C. Rolt, turned out to be an Englishman who had never visited the United States. He explained in a letter to me that he relied upon American printed sources for his U. S. references, and he referred me directly to the author of many of these, Robert S. Woodbury, Professor, History of Technology, Department of Humanities, Massachusetts Institute of Technology. In advising me to contact Professor Woodbury, Mr. Rolt told me he was considered a great authority on American Machine Tool history. I quickly verified this myself by visiting the nearest library of consequence, where I found that Woodbury had written the "History of the Lathe to 1850," for the Society for the History of Technology, in 1961, and was also responsible for many other references pertaining to machine tool history.[5] I wrote to Professor Woodbury, and we arranged an appointment to meet in New York City. When we got together, I explained the situation to him in considerable detail and briefed him as much as I could on the activities of the USAOG. It was a pleasure to talk to the Professor, as he seemed well versed in the technical aspects

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5 "History of the Gear-cutting Machine," R. S. Woodbury, Cambridge, Mass., 1958; "History of the Grinding Machine," R. S. Woodbury, Cambridge, Mass., 1959; "History of the Milling Machine," R. S. Woodbury, Cambridge, Mass., 1960.

of coin production. When I showed him the pertinent pages in Newman's Inquiry pertaining to the use of a lathe he appeared greatly interested. Accordingly, I gave him a copy of the Newman Inquiry and a copy of the latest Whitman "Guide Book." Upon his return to M.I.T. Professor Woodbury applied himself to the contents of the Newman Inquiry and he and I entered upon a rather extensive correspondence.

Professor Woodbury wrote me several letters, two of which pertain directly to the Newman allegations concerning the Tobias coin and the use of a lathe in its production.[6] These Woodbury letters are highly informative and should be carefully read in their entirety, but I believe a summary of their contents and quotations from them will suffice to completely refute Newman's contentions and conclusions. Professor Woodbury's findings, observations, and conclusions are as follows:

1. He considered the possibility that the fine curved lines "appearing on the eagle face of (Newman) Coin #6 in a sector of approximately 30^{0} to 200^{0} from the vertical axis of the coin" could be either concentric or spiral. After examining several possibilities towards their being concentric lines, he concluded that unless

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[6] Letters Prof. Robert S. Woodbury to John J. Ford, Jr., December 2nd and 8th, 1966 (Appendix items, Nos.16 and 17).

"we have positive proof that these marks are concentric circles, we can reject that possibility."

2. In assuming that the curved lines formed part of a spiral, Professor Woodbury examined the possibilities that they "are portions of a spiral cut in either the gold planchet from which the coin was made or in the die blank by which it was stamped." Two paragraphs of his letter to me of December 8th indicate total disagreement with the Newman conclusion that the pertinent lines were made on the planchet of the Tobias USAOG piece (Newman No. 6):

"The question then remains were they made on the planchet or on the die blank? To find these marks on the planchet used to make Coin #6 we would be forced to assume that the gold was worked into a cylinder of diameter at least as great as that of the planchet, a disc cut off and then faced with a lathe. In view of the practice since Da Vinci's day of producing the planchet by punching from a bar of gold of the requisite thickness and the extreme unlikelihood of anyone hammering out, drawing, or rolling a cylinder of gold of these dimensions, we can safely reject this possibility.

The other, and by far the most certain explanation, -- one which fits all the facts to be found on Coin #6, the facts of tool technology, the facts of tool history, and the logic of unspeculative common sense is that these marks were made in facing-off the end of a steel cylinder for a die blank. This would be done on a quite ordinary and common lathe using hand control of the mechanical cross feed. This cylindrical piece, contrary to usual practice, was then smoothed and perhaps polished on only part of its face, before the die was impressed. The remaining tool marks would then be reproduced exactly as found on Coin #6."

3. Professor Woodbury, because of his primary interest in machine tool history and technology, took exception to the Newman assertion relative to the uniformity of the curved lines on the Tobias coin. In his letter to me of December 2nd, he wrote:

"Mr. Newman goes on 'This design is so perfect that it had to be produced on a lathe and could not be cut by a skilled hand in 1853 or now.' Here he has gone beyond his competence. Such a

design CAN be produced by even a reasonably skilled lathe operator now, and was being produced as early as 800 B. C. (See my 'History of the Lathe to 1850') Any competent lathe operator since Maudslay's time can back off his cutting tool by uniform hand rotation of his cross feed control to produce this order of accuracy. Newman's statement here is not only 'speculation as to fact'; it is not 'based on certainty.' In fact it is based on ignorance of common machine tool practice now and in the past."

4. The Newman argument in attempting to show that a lathe with a automatic cross feed was required to produce such a pattern as that found on the Tobias coin concluded (on page 9) in typical Newman climactic style with the positive statement that "In 1853 the automatic cross cut device was not available on lathes in America." Professor Woodbury, probably the foremost authority in the United States on what machine tools were in use a century ago, also took exception to this Newman assertion. In the same letter of December 2nd, he said:

"Here we have a categorical statement presented as based upon certainty, but in fact not at all based upon historical evidence. ...There is clear evidence

(British Patent #6850) for automatic cross feed as early as 1835 and this feature was clearly embodied in an illustration of lathes offered for sale by Whitworth in 1843. Whitworth's firm was exporting these lathes all over the world. It is impossible to believe that this 'device was not available on lathes in America' in 1853. American manufacturers at this time were so far ahead in their technical methods that a British Commission (of which Whitworth was a member) came over in 1855 to study them. These methods were imported into England (see Nathan Rosenberg 'Great Britain and the American System of Manufacturing,' Edinburgh U.K. 1966). Surely either Robbins & Lawrence in Springfield, Vt. or the Colt Armory, Hartford, Conn., or Brown & Sharpe, Providence, R.I. had such a tool. At the New York Exhibition of 1853 Whitworth lathes were exhibited. There is every reason to believe that such a lathe was available in the United States in 1853."

Professor Woodbury, on the second page of his letter to me of December 8, 1966, describes exactly how the curved line marks on the obverse of the Tobias coin were made. He discounts the need for a lathe with an automatic cross feed device (even

though it was, as we have seen, undoubtedly available), and suggests (as I have said) that an ordinary lathe with mechanical cross feed was used. Since his exact description of the only two ways that the lines on the Tobias coin could have been put there completely explains their presence, I again quote from the Woodbury letter of December 8th:

> "These lines on Coin #6 would be recognized as either those left by a cutting-off tool or those left by facing the end of the bar of stock to get a surface flat and perpendicular to the axis. When a bar of stock, presumably cylindrical, has a disc cut off from one end of it (the bar being held in a conventional chuck and not between centers), it is done by a tool with a narrow cutting edge parallel to the axis about which the bar of stock is rotating. The corners of this tool leave just such fine marks as are seen on Coin #6, and would be spiral. The same marks would be left by a facing-off tool. Since the cut in the latter procedure is light and usually made from the center to the outer circumference, it would be easier to do the work with more accurate spacing of the spiral lines in this manner. So of the two possibilities I believe

that these marks were more probably made with a facing-off tool on a lathe with mechanical, but hand controlled cross feed."

We have seen that Newman is consistent. He sticks to his absolutely fallacious basic premise that only one working die is made and used when a working hub is sent to a branch mint (or its equivalent). He has convinced himself that since the lines found on the obverse of the Tobias piece were not to be found upon the obverses of the other Franklin Hoard coins available to him, that they had to be on the planchet of the Tobias coin. Why didn't it occur to Newman that the obverse die used for the Tobias coin could have been discarded, and another quickly made? Or why didn't he think about how easy it would have been to just simply polish away the light curved lines on that obverse die? Professor Woodbury mentions this last probability, and discusses why the curved lines were not removed entirely from the die blank before hubbing, in the last paragraph of his letter to me of December 8, 1966.

Newman, in discussing the marks on the obverse of the Tobias coin, stated: "...I am unaware of such a marking on any other coin of any type." He might be, but I am not. Evidence of die blank spirals can be found upon several large cent obverses of 1802 and 1803, and on the obverse of the 1854 ("1851") experimental Liberty Seated cents in german-silver, etc.[7] (although for different reasons). Spirals similar to those on the Tobias coin

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[7]See Adams-Woodin Nos. 146, 148, 149; Judd Nos. 156-159 inclusive.

are also demonstrable on an 1862 Half Anna of India, a rarity struck in gold from the Brand collection.[8] They are found in the obverse bust of Queen Victoria, commencing at a point at the top of the braid below the ear. They are not to be seen in the field, since the coin is a brilliant proof, the spiral marks there having been removed when the face of the obverse die was polished. Professor Woodbury examined this piece and enlarged photographs of its obverse (USA0G-118, reference), and wrote me a letter in which he expressed his opinion concerning it:[9] "...it is my firm opinion that these lines are the result of essentially the same methods in preparing the dies used for the Coin #6 $20 USA0G. The reasons for doing this kind of work may, of course, have been quite different in India from those in San Francisco, but the techniques and the results are the same. ...This 1862 Victoria Half Anna then definitely shows that the lines on Coin #6 $20 USA0G are by no means unique, and that Newman's statement on page 8 of his 'Inquiry' that he is 'unaware of such a marking on any other coin of any type,' carries no weight at all in the question of the authenticity of Coin #6 $20 USA0G."

In order to double check my feeling that the lines on the obverse of the Tobias coin were on the die blank before

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[8] Virgil Brand collection, inventory No. 124475. Purchased by Spink's as lot 159, first day's sale, coll. of John G. Murdoch, July 21, 1903, Sotheby, Wilkinson & Hodge, London.

[9] Letter, Prof. Robert S. Woodbury to John J. Ford, Jr., January 30, 1967 (Appendix Item No. 18).

hubbing, I sent two of my enlarged photographs to the Royal Mint in London (obverse, USAOG-114; USAOG-118). In time, I received a reply confirming that the Chief Engraver agreed with my contention.[10]

On page 9 of the Inquiry Newman gets around to talking about the tests that George Fuld had made at the Goodyear Tire plant: "Only coins #2, 3, 4, 5, 6 and 7 were tested by X-ray diffraction and the photographic prints have been interpreted to show that the planchets for coins #5 and 7 were cast rather than drawn while the others were not cast. The photographic results show a much greater dispersion of the rays passing through #5 and 7." Newman has here made an erroneous conclusion predicated upon his lack of understanding of the practical usage of X-ray diffraction in numismatics.

Both X-ray diffractometry and X-ray diffraction are generally used in numismatics to ascertain the amount of surface stress which the metal of a coin has undergone as a result of striking. The amount of pressure exerted upon a planchet while it is being stamped determines its surface stress characteristics. The analysis of these surface stress characteristics makes X-ray diffractometry or X-ray diffraction a valuable method to differentiate a cast coin (with a near perfect surface) from a struck piece. The cast coin possesses no appreciable stress characteristic as a result of its molten metal cooling, whereas the struck

[10] Letter, G. P. Dyer, Royal Mint, London, to John J. Ford, Jr., February 16, 1967 (Appendix item No. 19).

piece, in comparison, possesses substantial stress deformation due to the huge striking pressures and consequent work hardening of the surface metal. X-ray diffraction involves the same basic principles as X-ray diffractometry, but with X-ray diffraction a special camera is used instead of a detector, and the diffracted rays are recorded on film instead of being read on a scale.

Believing that the coins from Paul Franklin were in reality experimental alloy strikings, I had a suspicion that Fuld, and then Newman, misinterpreted the differences shown by the Fuld X-ray diffraction tests on two Franklin Hoard coins and a group of three regular USAOG twenty dollar gold pieces used for comparative or control purposes. With this thought in mind, I gave a copy of the Newman report to a friend of mine, Theodore L. Craige, and asked him to look it over. Mr. Craige has been a professional, practicing engineer for thirty years, and is currently Director of Engineering of a division of "TRW" (Thompson, Ramo, Wooldridge, Inc.). He and I have often discussed and sometimes jointly worked upon problems concerning numismatic metallurgy. Many of these problems involved questioned items, or were matters related to coin authentication. I have learned much from Craige, generally in the unexplored areas of metal deterioration such as galvanic reaction, and have high regard both for his professional ability and numismatic knowledge. I could think of no one better equipped to tell me if the interpretations given the Fuld tests could have been incorrect.

To assist Craige at arriving at a correct evaluation of

the announced results from the Fuld X-ray diffraction photographic prints, I made all of my Franklin Hoard and other USAOG coins, pictures and papers, available to him. He studied the material leisurely for some time, and then wrote me his conclusion.[11] His general observations concerning the Newman Inquiry as a whole were hardly complimentary, but it is his specific analysis of what Newman had to say concerning the Fuld tests that I would like to quote here: "... I am concerned lest X-ray diffraction by the reflection method be looked askance at in the future, because of this erroneous report, and, therefore, would like to absolve it by commenting on page 9, paragraph 2, of said document." The Craige comment concerning the Franklin Hoard USAOG twenty dollar gold coins is as follows:

> "All planchets are derived from casting the gold alloy into slabs called ingots, the size and thickness of which is determined by the quantity of gold needed. Since this was experimental work and not production work, probably small batches of each gold alloy were carefully prepared and then melted and cast into small thin ingots. Pure gold is soft; it is hardened by alloying and 'cold work' (such as rolling or striking). Copper is a hardener added to gold

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[11] Letter, Theodore L. Craige to John J. Ford, Jr., July 15, 1967 (Appendix item No. 20).

coins to make them more durable in circulation. The gold alloys used here contained various copper content, including none, and, therefore, when cold rolled to thickness 'worked' differently. Some ingots required much more cold rolling to final thickness than others; thus the grain size of the former was smaller than the latter by virtue of the metal being more compacted by additional working. Accordingly, we should expect to find planchets with varying degrees of grain size--fine to coarse.

All planchets prior to striking have to be heat annealed to make them sufficiently soft to minimize coining pressures and die damage and to prevent the struck coins from cracking. This striking of the planchets by obverse and reverse dies, together with the expansion of the flan edge into the reeded collar, work hardens the coin, especially in surface and near surface areas. Where coin thickness (as in this case) is appreciable, compared to the imparted 'Design Relief,' most of the metal deformation and flow is in these aforementioned areas. The section deep within the coin is not appreciably affected by normal coining pressures, and is, for the most part, of grain structure dependent on its prior history, i. e., cast ingot to final reduced

thickness chronology. Since different alloys required different degrees of rolling and, hence, possessed varying grain size, the struck specimens also possessed varying internal grain size particles.

X-ray diffraction by the reflection method was used to draw an erroneous conclusion. This method, under favorable circumstances, can be used to measure the stress deformation imparted to a struck coin at its surface and near surface areas.[11a] However, when the grain structure of the specimen is relatively large, or coarse, the X-ray diffraction rings show a much greater dispersion, making the stress determination most impossible![11b] This is why line 2 of paragraph 2, page 9, says: 'and the photographic prints have been interpreted to show that the planchets for coins numbers 5 and 7 were cast, etc.' Therefore, the X-ray diffraction method is inapplicable for those experimental coins with coarser grain structures, except to prove that they had comparatively coarser grains than other specimens by virtue of their prior history."

11a "In back-reflection measurements, particularly with the strongly absorbed long-wavelength X-rays commonly used, the resulting information is largely confined to the surface properties of the sample." (From) "X-Ray Studies of Materials, A. Guinier and D. L. Dexter, New York & London, 1963" (Appendix item No. 21).

11b ibid. Page 101: "...if the sample were composed of rather large grains so that the lines are punctuated, it would be impossible to determine the position of maximum intensity of the ring with the required precision" (Appendix item No. 22).

Craige concluded his letter with the thought that "...X-ray diffraction is an excellent tool when properly used. To do so, its limitations must be carefully considered." This remark is quite relevant, and penetrates to the heart of the current situation. Very few collectors or dealers have had actual experience with X-ray diffraction or any of the other scientific tests available to numismatics. Others have heard about them, but have only a vague idea of just what each test can or cannot do, or how specific tests can be applied to particular situations. For the unconversant always in seek of a quick panacea for the illnesses plaguing our hobby, and the sophomoric "Pseudo Expert" who cleverly drops test terms in his conversation, a little knowledge can indeed be a dangerous thing. Scientific tests are but tools, and as such are only as good as those interpreting them. In turn, those interpretations have to be evaluated by those with extensive numismatic knowledge and experience. Unfortunately, there is no such thing as all-inclusive numismatic knowledge, and thus such evaluations must be made by someone who has long specialized in and has intimate cognizance of the narrow field being studied.

In closing this examination of the substance and peripheral contentions of the Newman Inquiry, I am reminded of a sentence in the final paragraph of one of Professor Woodbury's letters to me: "In short, Newman is asking us to believe an elaborate series of arguments, each of varying degrees of doubt or impossibility, but taken as a whole absolutely preposterous."

THE NEWMAN ARGUMENT - HOW THE FRANKLIN HOARD COINS WERE MADE

The peripheral contentions of the Newman report seemingly serve as adjuncts to the heart of his Inquiry - how the controversial coins were manufactured. As earlier mentioned, Newman examined six Franklin Hoard pieces. Three of these, his Nos. 6, 14, 15, he contends were struck by the forger from a cast die made from a cast ceramic hub (mould) fabricated from a wax (or similar) impression taken from a genuine (Group X) coin. This piece would show (among other characteristics) the reverse chip at T of UNITED and the tablet break at right from the first A and S in ASSAY to L of GOLD to the second C of FRANCISCO and below. It would also have a reverse tablet frame line dent centered under the lower vertical serif of the F in CALIFORNIA. Following the striking of his Nos. 6, 14, 15, Newman tells us that the forger attempted to improve the quality of his working dies by removing the chip at the T and almost all of what can be called the "circumferential" break at the right. Following this, we are told that (Newman) Nos. 5, 7, 16, were struck. These are the steps that Newman believes the maker of the Franklin Hoard coins used:

1. A wax, latex or plastic mould or negative was made from the coin, presumably by impressing it into a thick disk of the receptive substance. Obverse and reverse impressions would be needed and made separately.

2. These wax, latex or plastic negative impressions were independently repeatedly dipped into a ceramic slurry, withdrawn for drying between dippings, and the resulting thick layer of ceramic material baked to harden it, and, incidentally, to melt, burn off or vaporize the negative mould (traditional "lost-wax" method). This would leave a ceramic hub or positive for both obverse and reverse, which would be in relief like the original coin, and supposedly hard enough for the next step. Miraculously, we are led to believe that there was no shrinkage and no size discrepancy from thickness of the separating medium ---if any.

3. The ceramic hubs were used as templates for centrifugally casting working dies of molten steel (or some other hard metal), which cooled and were afterward hardened. There was, even more miraculously, no evidence of die granularity, porosity or shrinkage.

4. The dies were polished and new coins (of the Group VII type) were struck. Undoubtedly, these were on traditional cold-rolled blanks (which the exception of Newman No. 6 already discussed).

5. After manufacture of the dies and the Group VII coins, the reverse die was stamped into a die blank to raise a new hub, presumably of steel. No mention is made of the type of steel

used for this hub or of the striking pressure required to raise it, or of the metallurgical techniques involved in creating it.

6. After proper preparation, the Group VII hub was retooled by removal of the chip at the T and most of the tablet break at right.

7. A second working die was sunk from the altered hub, polished, and in the process of polishing suffered a nick on the upper right side of the N in UNITED.

8. Using the new reverse die, additional coins were struck (of the Group V type) lacking the chip at T of UNITED and most of the tablet break at right. Two of these are alleged to have been struck upon cast blanks (Newman Nos. 5, 7).

I have been told that the maker manufacturing contentions in the Newman Inquiry are more than a little confusing in their presentation. As enumerated above they are far from complex, and in reality represent a simple, pat solution to the forgery charges made by the Study Group (if one overlooks the numerous technical faults and failures inherent to the processes given). However, in spite of the intrinsically simple nature of the basic Inquiry manufacturing allegations, it is imperative that they (and their ramifications) be clearly understood before an attempt can be

made to follow my comments and explanation of this main phase of the Newman argument. With that point emphasized, let us examine more carefully some of the die and striking characteristics mentioned in the Newman report, page by page. (All future references are to pages of the Newman report).

On page 6: a "rice shaped raised lump under the right arm of the T of UNITED" is described as having "probably occurred during the abrupt temperature drop in hardening the steel die by immersion in liquid when heated." The suggestion is thus made that this chip is to be exclusively found on a working die. This is not the case; it is not just on a working die or dies. It is found on coins from the Franklin Hoard source and on coins not traced thereto and on isolated impressions of the tablet alone on bars. The listing of USAOG coins that is available establishes this in detail. A feature found in common on impressions from demonstrably different working dies cannot have been a result of accident to one of them but rather must have come from a much earlier stage, and as I have already said, this defect was in the original tablet puncheon negative (or matrix) used in making at least four and possibly five working hubs. This anticipates part of the argument given in a subsequent part of this refutation.

Also on page 6: Newman mentions what he describes as

a diagonal die scratch in the obverse field just right of the second A in AMERICA. Later in his report (page 13) he claims that this scratch was accidentally made by the maker of the Franklin Hoard twenty dollar coins and is thus distinctive to them. He calls it a "tell-tale" mark of the allegedly forged obverse die. If this is a scratch on a working die, it would not be found on any impressions from other dies. Careful examination of the non-Franklin Hoard Proof, the Seavey, Ulex, Proskey, Newcomer, Raymond, E. H. R. Green, Bell, Farouk, Kosoff coin, Newman number 12 (USAOG-123), reveals a faint, mostly effaced, mark identical in direction and extent. With the diagonal die scratch on this coin, we can only conclude that the scratch was in the hub, therefore in relief, therefore originally in the matrix from which the hub was raised. As earlier explained, this particular Proof does not have the physical characteristics of normal USAOG twenties; it is in fact in some ways even more of a deviant than the Franklin Hoard proof surface coins. Humbert's dies were never so drastically lapped or worked on as were those used to strike this piece.

While Newman could not see evidence of the obverse diagonal die scratch just right of the last A in AMERICA on the Kosoff Proof (his No. 12), he also did not notice its absence on two lead trials that I had obtained from Paul

Franklin, and which I sent him for examination, although he calls it a "tell-tale" mark and claims that it appears on the obverse of all Franklin Hoard pieces. These lead trials show two slightly differing states of an unpublished obverse intended for a fifty dollar piece. They have a large 50, the 0 not double-punched; (Newman Nos. 24, 25; my Nos. TGT/P-110, 115). The same diagonal field scratch just right of the second A also does not appear on three USAOG gold fifty dollar pieces, all of which have the 0 (in the denomination) double-punched. One of these is on a very broad planchet with a reeded edge; it has a small tight target reverse and no reverse legend, and is presently in the Lilly collection. The other two are piedforts; (see TG-121, 125). All three are, of course, also Franklin Hoard coins, and together with the two lead trials mentioned, dispel the Newman "tell-tale" mark contention.

On page 7: Newman makes much of a dent across the upper part of the I in UNITED on the obverse of the Franklin Hoard prooflike coins, stating "the dent is not found on other coins." Newman has here committed a major blunder, affecting his own line of reasoning and invalidating his conclusion. He assumes that this obverse dent was on the unknown prototype piece used by the maker of the Franklin Hoard coins with his die casting process. It is my contention that the dent across the upper part of the I in UNITED was on a working hub from

which several working dies were made. Instances of dents to hubs are known on United States coins.[1]

All the evidence required to show that the dent on I of UNITED was in a working hub is to locate coins from demonstrably different working dies sharing the dent on I. Newman says none exist. He has erred here and the subjoined listing shows several such coins, most significantly including two that have no connection with Paul Franklin. Both of these coins are from hub Group X, the latest matrix state known with additional circumferential breaks at left as well as evidence of the

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1 All half cents from 1840 through 1857 are from working dies (differing in dates and other details imparted by hand) sunk from a single obverse and a single reverse hub. Before the single obverse die was made for 1841 the obverse hub received a wedge shaped dent on the hair below the ear. All half cent obverses from 1841 through 1857 show this identical dent, though that for 1854 shows it corrected with fine hair, this having been added to the working die in that area. Before the small berry regular reverse half cent die was made for 1849 the hub received two small cuts on the upper wreath above HALF, and these cuts show on all subsequent reverses. The half dimes of 1840 (with drapery) through 1858 inclusive are all from working dies made from a single obverse hub. Chips out of the matrix between the stars resulted in raised marks on the hub; some of these were partly effaced on various working dies and show smaller or more faintly on the coins struck therefrom. Dr. Valentine's monograph on half dimes (A.N.S., NN&M #48, 1931) points out that in early 1857 the hub, having become badly worn (after manufacturing several hundred working dies, according to Walter Breen's discovery of die accounts for the period in the National Archives) was retouched. The working dies made from the hub after retouching differ in hand finishing details as usual, but the coins struck from all such dies now show a dent on the inside point of the 3rd star. As this dent is incuse on the coins, it must have been raised on the working dies, and the cause is obvious - it was incused on the hub, representing an injury thereto.

reverse frame line dent below F. One is USAOG-107 (Group X-1), photos from Smithsonian negatives 102a, 102b. It was obtained by the National Museum prior to 1957 as a regular USAOG twenty dollars. The other piece that I can cite is USAOG-126 (Group X-2), a regular USAOG twenty dollars selected from a large group of coins from Stack's stock. The obverse dent on the I of UNITED is also found on the two fifty dollar round obverses and on the two hundred dollar bar (from the Franklin Hoard, which see): (1) that showing 50 D. with the zero double-punched; (2) that with normal zero; (3) that with no denomination but blank space and D. (TG-114, lead TGT/P-110 or Newman No. 24, TG-113: photographs of these pieces are displayed as evidence.)

The appearance of one and the same dent on a coin long in the Smithsonian Institution, on a piece picked at random from a dealer's stock, and on four demonstrably different obverses of Franklin Hoard Coins, is good evidence that they were from working dies having one and the same hub as prototype. A hub is in relief like a coin. A depressed dent could have been inflicted to a hub, in which case the working dies sunk from the hub would show it in relief, and the coins struck from the working dies in turn would again show it as depressed. Variation in the depth of the dent (and thus in its appearance) would reflect either different force used in sinking the working dies

or in striking the coins, or else in some instances retooling of dies to minimize such injuries.

Top of page 13: Newman states that "the nicks on the original coin were transferred to the false die and were not noticed but were too difficult to remove if they had been." As we have just said, the nick or the dent on the I of UNITED is depressed on the coin; therefore, it would have to be raised in relief on the die. If anything would be easy to remove from a die, it would be such a nick or dent. Clearly, Newman is in error.

Last ditch adherents to the Newman argument might ignore the contention that the dent at I of UNITED might and can vary in appearance. To quickly prove my point, I would like to refer them to both USA0G-103 and 104, upon each of which the dent at I of UNITED is hardly discernible. These, of course, are Franklin Hoard coins, and, interestingly enough, are from entirely different reverse hubs (Groups IX and V).

Page 7: The remainder of Newman's argument is utter chaos. He argues from what I have called the "circumferential" break (on the right side of the reverse tablet) that only a single reverse working die was involved. By his theory, two different working dies cannot crack identically, with which there can be no disagreement. By his theory, a raised crack has to be from a crack suffered by a working die; therefore

if a coin from a demonstrably different working die shows the identical crack in any state, it must be an impression from a copy die using one of those coins as a prototype. By his theory, then, all normal USAOG twenty dollar coins must have come from different states of one and the same working die. By his theory, the absence of the chip at the T or the tablet break at right on Franklin Hoard coins of Group V, and presence of both the chip and crack on the Franklin Hoard coins of what I call Groups VII, VIII and IX, while the dent below F in frame line occurs on both classes, represents an impossible combination pointing to the manufacture of copy dies, viz. counterfeiting. The necessary and sufficient solution to this "impossible combination" problem is something not considered by Newman. The circumferential crack at right was not from an injury to a single working die, but rather progressive states of breakage of a matrix from which at least five working hubs had been raised. Dies were sunk from four of these hubs and used to strike coins. Two of the hubs show no trace of the break at right; the other two do. The circumferential break is found fully formed on the numerous coins examined or it is not there at all. No progressive partial stages are known. Coins showing progressive deterioration of a single working die can normally be arranged to show numerous intermediate states of the breakage. There are regular USAOG twenty dollar

coins representing many obviously different working dies from hub Group II, III, IV (without break at right) and hub Group X (break at right, additional breaks at both left and right). The differences in these working dies from these hubs (as detailed in the subjoined listing) are identifiable as from hand finishing, of much the same kind as the differences between any single cent reverse and other cent reverse of the 1844-57 period, or from damage to the working dies from use.

Total refutation of the specifics of Newman's argument is not difficult. Presence of the identical reverse tablet frame dents (below F of CALIFORNIA, centered above E of UNITED, an oblique one above the left top serif of Y in ASSAY, and others) both on Franklin Hoard and non-Franklin source coins points to a common origin in an original hub or even an original tablet puncheon (raised or positive). This is in itself strong evidence of genuineness. Whoever made the dies for the Franklin Hoard coins had access to original equipment and did not need any such crude procedure as that of casting dies.

I have already said that the reverse tablet break at right was in the matrix, showing as raised on the working hubs, therefore as incused lines in the working dies sunk from these hubs, therefore as raised breaks on the coins struck from them.

The raised spur projecting angularly downward and to the right from the right end of the right base of the first A in ASSAY has nothing to do with the tablet die break at right but occurs on both Franklin Hoard (Group VII, VIII, IX) and non-Franklin source (Group X) coins with the break, and on Franklin Hoard (Group V, VI) items without the break. The lump atop the first A in ASSAY is a chip (or more likely a heavy rust pit) transferred by one working hub (Group VII, VIII, IX), and is different in direction from the crack from this A to the upper frame line. The chip between the first S of ASSAY and L below is also not part of the circumferential tablet break at right. It is found on Franklin Hoard (Group VII, VIII, IX) and non-Franklin origin (Group X) coins. It is also found upon the tablets impressed into assay bars, Proofing pieces, and other USAOG items. These tablets were cut down from regular Group VI working dies. The circumferential break in the original matrix happened to pass through the lump between S and L even as it had grazed the spur from foot of first A of ASSAY.

Reference has been made to hub Group categories and the statement made that the circumferential crack on the reverse tablet at right appears on <u>coins</u> from two of these groups only as a discontinuous element of a working hub. This is true, but reverse hub "C" (found only on cut-down Group VI dies, i.e. in

tablet form only) does show a minute rust spot high in the field between the 1 8 (of date), which, under a binocular microscope, shows the faintest beginnings or traces of a break commencing upwards towards the C in CALIFORNIA. The basic reverse characteristics of these hub Group categories or classes (from known impressions in gold only) are as follows: (order given is that of probable hub use, not that of hub manufacture)

Hub Group	Chip at "T"	Break at right	Frame spur A-period	Denticle break 3:30 reverse	Chip r. edge l. upright "N"	High N chip r. edge r. upright	Spur r.foot first A	Spur out top firstA	Chip be- tween S&L	New break l. &r.
II										
III	Yes	No	Yes	No	No	No	No	No	No	No
IV										

Reverse hub "A". Probably 2 working dies, possibly more of II; only 1 found of III; many of IV. A Group II coin, USA0G-105 (photos from Smithsonian negatives 101a, 101b, Mint coll. No. 1625) shows tablet frame line dent below F, as do some working dies of Group IV but on most hand finishing has obliterated it. Non-Franklin origin only.

V	No	No	Lump only	No	No	Yes	Yes	No	No	No

Reverse hub "B". Possibly 2 or 3 working dies (coins TG-121 $50. Eagle; TG-126 $21.06 and TG-117 $44.77, Target, F-3 and F-1 obverses, appear to have different reverses on the photographs available), but faint cracks at 2:00, 5:30, 6:30 o'clock radially, engine turning to border, on all seen (matrix cracks?). Tablet frame line dent below F varies in shape,

depth (and thus appearance). Die (or dies) lapped, particularly at right side of tablet, which presumably gave Newman his erroneous idea that he was looking at an altered copy idea. Franklin Hoard only; prooflike.

VI	Yes	No	Sometimes visible	--	No	No	Yes*	No	Yes	No

Reverse hub "C". At least 5 cut-down working dies (some showing part of tablet frame line or border). *The spur from right foot of A is quite minute on this Group, and on one or more of the working dies appears to have been removed from the hub. On one Proofing piece (USAOG-P) the tablet frame line is generally intact, and the dent below F in CALIFORNIA is very prominent. Franklin Hoard only; mostly not prooflike.

VII

VIII	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	No

IX

Reverse hub "D". Possibly 2 or 3 working dies known. Confirmation of this is a subject for future investigation. Wide range of states and strikings indicating prolonged use of the working dies over a considerable period of time. (Lead trial pieces exist of Group VII with break at right seemingly removed from the hub; one has the spur from right foot of the first A in ASSAY also lacking.) Coins from VII prooflike, less so than V; coins from VIII more or less double-struck, not prooflike; coins from IX represent latest die state known, not as prooflike as previous coins. Franklin Hoard only.

X	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes	Yes

Reverse hub "E". Additional hub circumferential and other breaks at left and right. Detailed analysis of six Group X coins (exhibit drawings C-1, C-2, C-3) suggest that a sixth hub might have been used and certainly that many working dies exist. Non-Franklin origin only.

We have said that the obverse dent on I of UNITED and the reverse dent on the frame line below F occur on both Franklin Hoard coins and those of non-Franklin origin. Both are found on hub Group X coins (X-1, USAOG-107, X-2, USAOG-126).

Page 14: Newman states: "Somewhere there is a beautiful genuine $20 U.S. Assay piece 900 fine which has the obverse dents and the reverse dents identical to those found on the coins from the Humbert Associate Source. It has the extended die break on the reverse. It has the lump under the T of UNITED. It is the piece from which the molds and dies were made to strike the Humbert Associate Source coins." Clearly, Newman thought that a top quality Group VII coin was used as the prototype. No such coin from a non-Franklin source exists. If a prototype was used to make cast dies, it could only have been a Group X coin. Are we to believe that the highly complicated six step transfer process (including the raising of a hub to remove break evidence) that Newman says was used to make corrected copy dies was performed twice? (A Group X coin to make Group VII, VIII, IX coins, a Group VII die to make Group V coins!) If so, for what possible conceivable purpose? How were the hub Group VI tablet impressions made? Was more than one Group VII working die made? Where did all the rust defects come from on the Group IX coins? If a Group VII die was used to raise a new hub and the chip at the T and most of the tablet break at the right removed (as Newman

claims), how did the maker perform the incredibly difficult (if not impossible) task of removing all traces of the complex reverse denticle break at 3:30 o'clock without leaving the slightest evidence of his handiwork on Group V coins? The small raised horizontal projection or spur from the upper right edge of the right upright of N in UNITED is not found upon hub Group X coins. Neither is the similar projection or spur on the right edge of the left upright of the same N. Yet the latter appears on hub Group VII coins, disappears on the hub Group V coins and is replaced by the Newman touted high chip, projection or spur on the right upright of N! Neither exist, one appears, disappears, another appears...but no mention is made of such phenomena. Admitted lack of knowledge of the hubbing process and the confusion of different dies can be the basis of almost any conclusion one could imagine, but it is not a sound basis for truth.

Page 10: Contentions already presented relating to the raising of five or more working hubs from a matrix suffering breakage, and the sinking of many working dies from these hubs, destroy Newman's paragraph beginning "This is conclusive evidence ..." Since Newman's entire technical case against these coins is to date based on the argument that only one working die was involved rather than several working dies from at least three of five working hubs, with this refutation his case collapses and the coins be presumed genuine.

Pages 10 and 11: As I stated earlier, late in 1964 I sent Newman, at his request, six lead trial pieces of the USAOG that I had obtained from Paul Franklin. He gives them his Nos. 20 through 25. His description of them in his report is cursory, and he hastily mentions the fact that five of them have unpublished obverse dies. Since new type obverses do not readily fit into his theory of copy dies fabricated via casting (which require a genuine prototype coin for the first step negative mould), he devotes a short paragraph (page 12) to this minor problem, solving it by suggesting that coins with new type designs or other components can be made via an involved six step process. Encouraged by the ease with which he disposed of the complexities of creating unknown coin types, Newman concluded that four of my six lead trials were struck using a reverse die that was indirectly made from a coin which bore a stage of the crack at right and which thus was (in his opinion) an example from a used production die. Here again we have the repeated Newman error that only one working die was involved in the manufacture of millions of coins. The premise of this basic error is such that he felt compelled to state: "This therefore is a strange set of trial pieces since the reverse die had already been used for production and the die had extensively cracked before the lead trials were made."

Some pages back I said that Newman Nos. 24, 25 (my

numbers TGT/P-110, 115) show two slightly differing states of an unpublished obverse intended for a fifty dollar piece. This obverse has the characteristics of the Franklin Hoard Twenty Dollar obverses, the dent on I of UNITED, and a trace of a rust mark (?) below the ribbon at left, but lacks the field scratch at last A in AMERICA. Instead of TWENTY there is a large 50, the 0 not double-punched and lacking the small die chip at its upper left. The first of these mentioned is struck upon a very broad flan (the size of a fifty dollar gold piece) with a reeded edge (148 reeds) and a border on both sides composed of large denticles. The reverse is otherwise blank except for two circular guide lines, the upper one of which has MOFFAT & CO (no period) struck in relief above it. The lettering is of identical style to that on an ex S. K. Nagy estate (non-Franklin) and doubtless authentic large lead ingot die trial (which see) reading AUGUSTUS HUMBERT ASSAYER around, ---Thou^{S} on scroll, MOFFAT & CO (no period) within, ---D ---C (spaces left for inserting value) below. The other mentioned, from a minutely different state of the identical obverse, is uniface. The maker of this obverse die clearly had access to a hub from which he made one die with TWENTY D., two with 50 D. and one with a blank space and D. (TG-113, which see). Since this same hub with the dent on I of UNITED and without the diagonal die scratch in the field just right of the second A in AMERICA is found on various dies of the regular 900 THOUS. issue (hub Group X), obviously

a link is established between the maker of the Franklin Hoard coins, of these lead pieces, and of regular gold USAOG twenty dollar coins. The amount of original equipment which must have been in the possession of this unknown alleged forger increases with every piece studied, and the end is not yet in sight.

The other three lead trial pieces with unpublished obverse dies, Newman Nos. 21-23 (my Nos. TGT/P-111, 112, 113), about which Newman complains on the premise that they were made from an old broken production die, mule two different reverse working dies of the hub Group VII type (denticle break at 3:30 o'clock) which lack the circumferential break at right with two obviously different obverses of round ingots intended for various denominations. These obverses are of the types hereinafter called F-2 and F-3, and impressions from these identical dies are known in California gold. (The two reverse working dies lacking the break at right are mentioned in the paragraph concerning reverse hub "D" but their characteristics are not listed in our tabular breakdown for hub Group VII, VIII, IX as that listing only includes examples in gold.)

Page 11: Before leaving the subject of the six lead trials from the Franklin Hoard, Newman referred to the reverse of four of them and made an interesting observation: "Comparing

this to another lead trial of a $20 USAOG reverse which has been in a museum for about fifty years it is noted that the latter does not have the dent in the frame line and does not have the die break found on the Humbert Associate Source lead trials." The piece that Newman mentions is Adams 84[2] which has long reposed in the Connecticut State Library in Hartford, as part of the Joseph C. Mitchelson collection. I told Newman about the existence of this lead trial when he first became involved with the Study Group. According to Mrs. Arline G. Maver, the curator of the Library collections, he visted Hartford in 1966. The reasons why the Mitchelson impression does not resemble any of the Franklin Hoard lead trials are many and varied, but one of them is quite fundamental - the Mitchelson lead 1853 USAOG twenty dollar reverse impression never was west of Pennsylvania; the Franklin Hoard lead trials were made in California.

In 1908 or early 1909, Joseph C. Mitchelson, of Tariffville, Conn., obtained a set of four lead die trials of the USAOG, each of which was crudely cut into an octagonal shape. Besides the twenty dollar reverse mentioned, an obverse and reverse for the 1853 ten dollars was included, as was an obverse trial for a USAOG five dollars. All were uniface trial impressions from single dies. Edgar H. Adams described the discovery of these rarities in the May, 1909 issue of "The Numismatist." Subsequently, he listed them as his Nos. 84, 85,

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2 pg. 105 "Pattern and Experimental Pieces of California, 1849-1853," Part IV of "Private Gold Coinage of California," Edgar H. Adams, Brooklyn, N.Y., 1913.

86, 87 and stated that "all (are) from dies which are now in the Philadelphia Mint cabinet."[3] Adams believed it probable that these dies (he said nothing about the impressions from them) were made in San Francisco and returned to Philadelphia. However, examination of the USAOG twenty dollar reverse impression refutes this innocent speculation. It is an impression from one of at least three matrices sunk from an original prototype in the Philadelphia Mint. All show parallel guide lines between the lines of lettering and a center dot, on the tablet. Before any of them was used to raise a hub, the shallow guide lines and center dots were removed by grinding or lapping, after which the recutting showing at left of 5 was likewise much weaker. When Newman looked at the Mitchelson lead piece he apparently did not notice that his "rice shaped raised lump under the right arm of the T of UNITED" was missing, and that he was looking at a matrix impression.

Adams illustrated the actual Mitchelson lead strike of the USAOG twenty dollar reverse in the May, 1909 issue of "The Numismatist." However, when his book was published in 1912-13, he illustrated No. 84 (in the "Pattern and Experimental Pieces" section) with a plaster cast taken from the USAOG twenty dollar reverse die in the Philadelphia Mint collection. In spite of the fact that the lead impression in Hartford has slowly deteriorated over the years, it is obvious that Adams made a serious mistake. The Mitchelson lead reverse trial and the

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3 ibid. Pages 105, 106.

positive he made from the die in "the Philadelphia Mint cabinet" are not the same. The die in Philadelphia fifty-five years ago was not used to strike the lead reverse in Hartford! A comparison of my greatly enlarged photo of the Mitchelson piece (USAOG-133) and the second plate of halftones in "Pattern and Experimental Pieces of California" quickly proves this point. The lead uniface trial, having lain face upwards for over half a century, has slowly corroded. The struck surface, because of numerous brushings to remove the lead carbonate deposit (which retards the rate of corrosive attack), has become rough and scaly looking. Even so, the guide lines and center dot are clearly visible, as are numerous defects both on various letters and the tablet frame lines. A glance at the Adams halftone shows none of these characteristics, but does reveal a remarkably clean and perfect looking USAOG reverse, befitting a plaster cast taken from a well preserved steel working die. The only defect even remotely discernible in the Adams illustration of № 84 is what appears to be a dent on the bottom tablet frame line under the F of CALIFORNIA. In addition, the die chip under the right arm of the T in UNITED is not visible. Finally, there is no sign of the die break at the right hand side of the tablet. What have we here? Could Adams have illustrated a working die compatible with the Franklin Hoard Group V gold coins?

Two matrices, apparently different than that used to strike the Mitchelson lead trial, are found together struck on a large (34mm) nickel alloy planchet with plain edge. This item first appeared in the Waldo C. Newcomer collection, his No. 2735; he paid $350. for it. Later, it was sold by B. M. Mehl to Wayte Raymond, and passed into the hands of F. C. C. Boyd, Abe Kosoff, Farouk, Hans Schulman, New Netherlands 1955, Louis Werner, G. S. Stephens, and Dr. Conway Bolt. It was purchased by me at the Bolt sale[4] (see USAOG-134). One of these two matrices (which one is hard to tell since both nickel impressions are weak and/or incomplete) is also known struck upon a very large (41mm) thick copper flan with plain edge. This matrix impression is in my collection (USAOG-125); it initially appeared in a S. K. Nagy consignment to the 1958 A.N.A. Convention sale. Both this copper trial and the "double reverse" Newcomer nickel trial show a light raised defect almost vertically between the F of OF and the first C of FRANCISCO (not visible on one side of the nickel piece) and a similar defect joining the bases of NI of CALIFORNIA. However, there are minor differences between the three impressions and I believe that the copper trial was made after the nickel one. One of the matrices was resurrected by some one either in the Mint or out of it, who altered it to read 1852, thus creating an unknown "pattern" reverse. This was accomplished by grinding down the

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[4] Lot 1192, Stack's Dr. Conway H. Bolt coll. auction sale, April 21-23, 1966.

matrix itself, removing most of the guide lines and imperfections, but leaving the center dot; the recutting at left of 5 remains as does a faint trace of the defect at F. C. The wrong size numeral 2 was used, that figure being heavily punched over the obliterated 3. Five impressions of this 1852 USAOG twenty dollar reverse are known, two in silver (Ford and Dr. Katz colls., ex Boyd and Raymond, Farouk); one in copper (USAOG-117); two in lead, in the Smithsonian (USAOG-108, 109). All can be traced to S. K. Nagy, the long time Philadelphia dealer who was intimate with Capt. John Hazeltine and William Idler, both of whom had access to Philadelphia Mint material.

As I have said, the 1853 USAOG twenty dollar reverse die (illustrated by Adams) was in the Philadelphia Mint cabinet collection as late as 1912. A notebook, prepared by Adams for Julius Guttag, and containing additions and corrections to "Private Gold Coinage of California," is in my library. In it, Adams states that the dies for his Nos. 84 through 87 are "now in the Government collection at Washington." The Smithsonian Institution did receive numismatic material from the Philadelphia Mint in the early 1920's (about the time Adams made up his Guttag notebook), but no record of these dies can presently be found at the National Museum. The twenty dollar reverse die with the characteristics of the Franklin Hoard Group V reverse may still be in the Mint, unless it was destroyed in 1938 along with other old dies. Its rediscovery would be extremely interesting.

At the beginning of this section I outlined in summary form the steps alleged by Newman to have been used to fabricate

the Garland (and related Franklin Hoard) coins. The second initial step described involved the use of ceramic or baked clay, the third step the use of centrifugally cast steel to make the actual dies from which the coins were first struck.

Both baked clay and cast steel lack the inherent qualities required for high quality transfer reproduction. Their basic composition prevents exact imitation of fine relief detail. The clay has a tendency to shrink when drying. Both have a tendency to shrink when cooling (the ceramic after baking, the steel after casting into the ceramic). This shrinkage is not always uniform and when quite fine detail is involved it is not difficult to find evidence of distortion. Paper currency manufacturers have long made geometric or engine turned patterns part of bank note designs. Many of these patterns are quite similar to that used upon the reverse of the 1853 USAOG twenty dollar coins. The purpose of these repeated ultra-fine designs on currency is to make their reproduction by counterfeiters difficult. Therefore, why would any forger select a coin to reproduce which had as part of its design these highly detailed patterns, and why would he select materials and methods totally unsuitable for the reproduction of even simpler designs?

Last September I wrote to the Bureau of the Mint[5] requesting information relative to the use of centrifugally cast

5 Letter, John J. Ford, Jr. to Miss Eva Adams, Director of the Mint, September 30, 1966 (Appendix item No.23).

steel dies for the striking of coins. I enclosed a photographic enlargement of the reverse of one of the Franklin Hoard coins and copies of pages 11 and 12 of the Newman Inquiry, the latter containing Newman's explanation of how the coins under discussion were fabricated. I asked "if they have developed precision steel casting to the extent that coins of the quality shown on the enclosed photo (geometric design and all) can be struck from a die so made." Replying to that question and others, Miss Eva Adams, Director of the Mint, wrote me a detailed letter dated October 18, 1966.[6] Part of Miss Adams' reply is as follows: "Although we are continually examining questioned U. S. coins, many of which are determined to be counterfeit, this office has not had occasion to examine a counterfeit coin known to have been struck from dies produced by the described precision casting technique. However, our information, obtained from government experts who were instrumental in the development of the process, indicates that the following is true concerning the method, as it might be applied to the manufacture of coinage dies, either genuine or counterfeit:

(1) The fineness of detail attainable by present methods of hubbing will not be equaled in dies produced by the casting method;

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[6] Letter, Miss Eva Adams, Director of the Mint to John J. Ford, Jr., October 18, 1966 (Appendix item No. 24).

(2) Each cast die would necessarily go back to the engraver for hand or mechanical work which would result in variations between dies which would be apparent to an expert examining the resulting coins.

Both points made by the government technicians for Miss Adams should be self explanatory. The first makes it crystal clear that coins struck from hubbed dies (the process not having essentially changed since 1853) cannot be equaled in quality by coins struck from dies produced by any method of casting. The second point emphatically states that every cast die must be retouched or retooled, which would result in variations between them, or between the fruit of a retouched or altered cast die and a known genuine coin. The reasons why each cast die would go back to the engraver for hand or mechanical work should be evident to any one who has examined a cast coin,[7] and it should be strongly emphasized that steel does not have the flow, ductile or plastic qualities of the metals commonly used for casting coins.

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7 For an example of a cast coin (in a conventional metal commonly used for casting coins) see USAOG-115. This lead piece illustrates how the USAOG twenty dollar tablet reverse, with its twin panels showing engine turning, appears as a casting. The original of this ten-sided item appeared as lot 2018 in the 1958 A.N.A. Convention sale catalogue as part of a consignment by the late S. K. Nagy. The cast copy which I illustrate subsequently appeared in another public auction sale catalogue, where it sold for the remarkable price of $2,000. to a floor buyer.

Page 12: Newman takes note of the shrinkage problem when casting steel. "The shrinkage of steel in the casting produces a slight size differential which is unnoticeable unless measured by precision instrumentation." In her letter to me, Miss Adams also quotes this statement, and in doing so says that "one major reason for the coins' being distinguishable is frankly stated in the report."

Four or five years ago, I was concerned with the authentication of another Pioneer gold coin. At that time I was accused of selling a Norris, Grieg & Norris five dollars as genuine, after a well known dealer had condemned it as being a cast piece. In endeavoring to prove the coin a struck example, I sent it to Dr. Vladimir Clain-Stefanelli, curator of numismatics at the Smithsonian Institution. Dr. Stefanelli in turn sent the coin together with a specimen from the National Museum to the Federal Bureau of Investigation Laboratories. The FBI people individually photographed both coins to an identical degree of considerable enlargement on 8x10" sheets of black & white positive film. Care was taken to see that the coins were photographed within minutes of each other, with the camera, coins and lights in the same position for each photograph. Both sheets of film came from the same box, both were developed at the same time in the same tank of developer; equal care was taken that both sheets of film received identical treatment during the remaining steps of the

processing. The finished positive photographs (or transparencies) were then superimposed and examined with the aid of a back-lighted ground glass viewer. I was told that the cast coin would be smaller in diameter than the struck one, the shrinkage being most perceptible about the periphery of the smaller specimen. Happily, no evidence of shrinkage was discernible, and subsequent X-ray fluorescence tests confirmed my original judgment. With this experience in mind, I had similar enlarged transparencies made of two Franklin Hoard coins and two regular USAOG pieces. USAOG-103 (Group IX-1, Franklin) and USAOG-126 (Group X-2, non-Franklin) were photographed on black & white positive film by Laurence Steur of the Medical Illustration Laboratory of the New York Veterans Administration Hospital (Exhibit Transparencies C-4a C-4b). Steur also photographed USAOG-124 (Group V-1, Franklin) and USAOG-130 (Group X-3, non-Franklin) on Ektachrome positive color film (Exhibit Transparencies C-5a, C-5b). Superimposition of these transparencies was quite revealing, as much information was gained concerning the possible methods of matrix composition, the make-up of dies from hubs, the relative depth of sunk dies, and even the alignment of dies in a press and collar fabrication. Last but not least, neither of the Franklin Hoard coins (in comparison with the control specimens) showed the slightest evidence of shrinkage. This is particularly significant in the light of the Newman allegations concerning how these coins were made. Clearly, the Newman

process would involve not just nominal shrinkage (as would occur in the case of casting a coin in a metal commonly used for that purpose), but dual shrinkage of considerable total magnitude. His ceramic hubs would certainly shrink when dried and/or baked, and there could be a slight size discrepancy from the thickness of the separating medium. In addition to this shrinkage, there would be definite, measurable shrinkage of the cooling molten steel (as mentioned by Newman, and confirmed by Miss Adams). Since the Franklin Hoard coins display no signs of any shrinkage, the conclusion can only be that these pieces were struck from non-cast dies, and thus be presumed genuine.

Earlier I mentioned the Newman idea of how new type coin designs or other components could be fabricated. This was in connection with the unpublished obverse dies on five of the six lead trial pieces that I sent to St. Louis for examination nearly three years ago. There are numerous flaws in the six step process described by Newman on page 12-coin to wax (latex or plastic), wax (or whatever) to ceramic, ceramic to steel die, steel die to steel hub, steel hub to steel die, steel die to coin, even if one discounts the proven fallacies of his cast die theory. For instance, his concept of punching different letters or different numerals into a die, the working part of which is five steps removed from the prototype, would require sets of letter or

numeral punches that would be compatible with the style and appearance of the letters and/or numerals already in the die. These are not available on the market, since the style of letters and numerals has changed during the last century, and even if they were, the correct size would be difficult to duplicate. Obviously, such punches would have to be made, another tedious and expensive, if not impossible, proposition under the circumstances. There are other faults in Newman's six step process, but it is unnecessary to pursue them, since the entire modus operandi is predicated upon his discredited cast die argument.

THE FRANKLIN HOARD COINS - WHYS AND WHEREFORES

Let us review, briefly, the events which led to the issuance of over two-and-one-half million twenty dollar gold coins, of the fineness of 900 parts gold per thousand, by the United States Assay Office of Gold in 1853.

2,600,000 issued Assay $20 900th

Augustus Humbert first started operations as "United States Assayer" in San Francisco on the last day of January, 1851. This was almost four months to the day from the date of the Act of Congress that authorized his title and put him in business. He was in California to convert raw gold into a commodity that would bear the Federal government stamp (testifying to its standardized weight and fineness), have a fixed and accepted value, and which could and would be used as a medium of exchange. He was in California as "United States Assayer" to force the State Assay Office out of the "officially stamped" ingot or what amounted to the "money making" business. He was authorized to associate himself with an established and reputable private coiner and he chose Moffat & Co.

From the beginning, Humbert conducted a semi-official operation. He was operating what amounted to a provisional branch mint, on a highly irregular basis, under

contract to a private concern. His coins, whatever their form, were officially called "ingots." These, as we know, bore the legend, UNITED STATES OF AMERICA, and the Collector of Customs in San Francisco, T. Butler King, was authorized to accept them for tariff payments. That the U. S. government was the issuing authority and accepted them for the payment of Customs Duties, testified to their official status. On the other hand, legal tender status was not explicitly granted to the Humbert issued "ingots" (i.e., coins)[1] as this would have subjected him to the rigors of the Assay Commission. What did Humbert have to do with the Assay Commission? The answer is simple. That group, whose operations were ordinarily of a perfunctory nature, would have tested the Humbert "ingots" and quickly found that they conflicted with Section 8 of the Act of January 18, 1837,[2] the law that revised and restated Mint operations and regulated United States coinage. Section 8 concerned itself with the standard for gold coins, and clearly specified what alloy could be used. The standard was 900 parts of gold per 1000; the alloy was to consist of copper and silver- "...provided that the silver do not exceed one half of the whole alloy." One half of the whole alloy was 50 parts of silver per 1000.

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[1] pg. 22, "The Moffat & Co. Issues, San Francisco, 1849-1853," Part II of "Private Gold Coinage of California," Edgar H. Adams, Brooklyn, N.Y., 1913.

[2] "SEC. 8 And be it further enacted, That the standard for both gold and silver coins of the United States shall hereafter be such, that of one thousand parts by weight, nine hundred shall be of pure metal, and one hundred of alloy; and the alloy of the silver coins shall be of copper; and the alloy of the gold coins shall be of copper and silver, provided that the silver do not exceed one half of the whole alloy." (From) "Coinage Laws of the United States, 1792 to 1894, etc.," Government Printing Office, Washington, D.C., 1894.

The law was in conflict with the realities of the situation. California gold, in its native or raw state, was heavily alloyed with silver. To conform to the Act of 1837, Humbert would have had to refine his gold, removing some of the silver. For a relatively long time, he tacitly ignored the law, and his "ingots" (or coins) circulated without legal tender status. The day of reckoning finally arrived, but Humbert did not give up without a struggle. An examination of the extensive historical materials furnished by Edgar H. Adams[3] from San Francisco newspapers of 1852-53 tells us what brought the era of "880," "884," and "887" fine Humbert issues to an end.

As of September 4, 1852, W. L. Hodge, Assistant Secretary of the Treasury, wrote T. Butler King, the Collector of Customs, Port of San Francisco, to the effect that USAOG "ingots" (whatever the description) would no longer be acceptable for tariff payments, pursuant to Act of Congress, August 13, 1852. The Treasury Department till then had been acting upon advice of counsel in the belief that the Humbert and USAOG issues were for all practical purposes U. S. coins, viz. bullion of standardized weight and fineness officially stamped by a government officer. The Act of Congress in

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[3] pgs. 37-50, "The Moffat & Co. Issues, San Francisco, 1849-1853," Part II of "Private Gold Coinage of California", Edgar H. Adams, Brooklyn, N. Y., 1913.

question overrode this position without stated bands. Hodge promised early attention to the necessary substitute remedying the new situation, that of creating an official San Francisco branch mint. He also left a loophole: "In the meantime the Department will ascertain if any temporary ...circulating medium in California of the standard fineness agreeable to the above Act of Congress, ...may at least to some degree lessen the inconvenience arising from the present scarcity in California of the actual mint coinage." The problem placed in Humbert's lap was not concerned with the authority of the issuer, nor was there any question as to the value of the Humbert-USAOG "ingots." It was entirely one of alloy composition, as the Humbert-USAOG issues were slightly too low in their gold content and compensatorily too high in their silver content, to conform to the Act of 1837 which clearly specified 900/1000 gold fineness and no more than 50/1000 silver. Making gold of that fineness required parting acids (nitric and sulfuric) which were extremely difficult to obtain in California. Bringing acids overland was hazardous, when we consider the carboys of highly corrosive acid bumping and jostling in the covered wagons, thus presenting a danger of not only destruction of the wagon furnishings but possible agonizing death to the wagon inhabitants at every bump in the road. This, of course, is aside from the effects of a few bullets from hostile Indians. Bringing acids by ship around

Cape Horn was just as hazardous. Ship captains often flatly refused to accept acid carboys as cargo, both from the danger of deadly fumes building up in the holds and from the aforementioned dangers of spillage-- spillage from the ship's rolling and tossing-- spillage which might well result in shipwreck, so corrosive were the acids needed and so large the quantities.

Hodge's letter, published in the "San Francisco Herald," October 9, 1852, resulted in a mass meeting of merchants the same day. The proceedings of this meeting were published in full in the October 10th issue of the same paper. At the mass meeting ex-Governor Smith made a long speech reviewing the history of the situation and emphasizing the legal point that Treasury action hinged on (a) whether or not the "ingots" were official U. S. issues, (b) if they were of standard fineness. In connection with the "ingots" being official U. S. issues, he said that the original Treasury order authorizing "ingots" to be receivable in payment of tariffs would not have been legally authorizable unless the coins were legally acceptable at par. (The Sub-Treasury Act of 1846, Section 18, specified that customs duties were payable in gold, silver or Treasury Notes, the species of gold was not spelled out-- and I would add that during this period Bechtler was already in large scale operation, which

may be one good reason that "gold" was not more explicitly described. The Appropriations Act for 1851 specifically authorized conversion of raw California gold into "ingots" whose value would be officially impressed by a government official, viz. the U. S. Assayer of Gold, Augustus Humbert. Ingots had to be of full declared value, otherwise they would not circulate.) In short, Smith adopted the view that the 8/31/52 act did not specifically forbid "ingots" (i.e., coins) per se. Customs collector T. Butler King pointed out that the difficulty lay solely in the divergence in alloy composition between Humbert's "ingots" and regular U. S. gold coin. He also said that he had recently been appointed Assistant Treasurer of the United States, and was thus wearing two hats as he retained his Collector of Customs office. As Assistant Treasurer, he was unable to deviate from Hodge's interpretation, but he offered to receive "ingots" for tariff payments temporarily, if he could do so without risking jail. Ex-Gov. Smith pointed out the inconsistency of the legal situation: the intent of the 1850 act was to make "ingots" a circulating medium, the act of 1846 failed to specify the kind of gold that was acceptable, yet Hodges, as Assistant Secretary of the Treasury, had declared the "ingots" unacceptable. King reiterated that only fineness under 900 was at issue. The upshot of the meeting was a memorial, signed by most of the local merchants and addressed to Secretary of

the Treasury Thomas Corwin, pleading hardship and citing King's offer to receive ingots on his own.

At this juncture, as of October 12th, Humbert offered to make "ingots" at 900 fine, but declined to attempt to reduce the silver content of his issues to 50/1000. Not only was there an extreme shortage of parting acids, but there was also a serious shortage of copper. After October, 1852, almost no "ingots" were made of the lower fineness.[4]

Humbert was clearly treading a shaky legal tightrope. He quickly went along with the T. Butler King idea that the fineness of 900 was the prime issue, for wasn't the fineness clearly stamped upon his coins for all to see. However, as he spelled out in his letter, to the "San Francisco Herald," of October 12, 1852, he could not conform to the alloy requirements of Section 8 of the Act of January 18, 1837.[5] This being the case, it might only be a matter of time before King received a letter, or took it upon himself, to decide that he had to have full conformity with the law or else the Humbert "ingots" could not be used at the Custom House. Humbert knew that his coins, having a predominant silver alloy, were cold looking-- almost greenish in color, compared to the warm

[4] A very small number of ten and twenty dollar gold pieces were coined by the USAOG in 884 fineness early in 1853.

[5] "It is manifest that to conform strictly to this standard of the Mint, in all its points-- that is, to make the coin of a fineness of 900 thousandths of gold, and the 'alloy of not more than one-half silver, and the balance copper'-- would involve the necessity of separating the silver from the gold and substituting copper. And it is very evident that this long, tedious, and expensive process cannot be adopted until the proper facilities are afforded by the branch of the Mint which is to be established in San Francisco, connected with which there must necessarily be refining and chemical works for the manufacture of acids."

appearing, almost reddish color, of regular U. S. gold pieces. If he could come up with a composite alloy of gold and silver, with some copper, that would make his "ingots" more or less compatible in appearance to U. S. gold coins, he could, in effect, "have his cake and eat it too."

While on a trip last fall, I purchased a copy of the Adams 1913 reference on Private Gold Coinage, and having nothing else to read on the plane home, I reread that section of Part II dealing with Humbert's problems. The more that I read, the more I thought of Franklin's handkerchief story alluding to alleged varying finenesses and alloy differences of the seven perfect prooflike and probably other twenty dollar coins from his find. The more that I thought about it, the more convinced I became, that most of the Franklin Hoard USAOG pieces had to be experimental strikings in various alloy combinations. Of course, I remembered being told that the original owner of this material had turned in $14,000. to $15,000. in gold coin, in 1933-34, and that those coins were mainly of twenty dollar denomination, and that all of them had been obtained by the family prior to 1862. The possibility existed that some of the impaired and handled prooflike coins that Franklin disposed of could have been USAOG coins of normal fineness, some of the experimental alloy pieces having become mixed up and exchanged with the coins turned in. Not knowing exactly what I would find out, I was determined to have tests

made in order to ascertain just what these coins were made of. With this thought in mind, I contacted Dr. Vladimir Clain-Stefanelli at the Smithsonian, hoping that he could help me by having a non-destructive quantitative analysis made of sample coins at a government laboratory. After all, Dr. Stefanelli had such tests performed for me before, and there was also the question of cost. Unhappily, after an exchange of correspondence and a talk in New York City, Dr. Stefanelli advised me that he could not have tests made for me at an early date, if at all. Being forced to turn elsewhere, I contacted a friend at M.I.T. seeking an answer to my problem. He referred me to the Research Laboratory of the (Boston) Museum of Fine Arts. Speaking to the laboratory director on the telephone, I was advised that they could perform X-ray fluorescence tests for me, which would not harm the coins in any way. Knowing that their X-ray spectrograph was capable of providing an accurate quantitative analysis of the alloy of a coin to within one tenth of one per cent,[6] I sent them three representative coins from the Franklin Hoard. One of these was the perfect prooflike specimen from the Murrell-Clifford collections (USAOG-124). The other two coins were pieces Franklin had either sold on his own or had kept himself for a period of time before selling. The first of these he sold to Werner Amelingmeier, January 1, 1959, for $150. (USAOG-104); the second one was the best of the "impaired" prooflike

strikes, that sold to Harry Forman, April 1963, for about $1,800. (USAOG-111). My sampling was certainly representative; I had a perfect prooflike coin (one of the seven), and I had examples of both the worse and nicest coins that Franklin had handled himself.

In sending the three Franklin Hoard coins to Boston I was prepared to find either similar compositions varying only minutely and randomly, testifying to a single melt, or-- if the pieces were in fact experimental as I believed-- exact round numbered percentages such as 880, 890, 900, 910 gold. Early in May I received the test results, consisting of three signed certificates from the Museum of Fine Arts. There were no opinions given on these certificates, just the results of an analysis of each coin "by X-ray fluorescence to determine the percentage of gold and silver or copper in the alloy."[7] The test results were as follows:

	gold	silver	copper	trace(residual)elements	weight
Forman's one of 7 — USAOG-111	910	80	0	10	514.6(grains)
USAOG-104	890	90	5 to 10	10 to 15	516.6 "
USAOG-124	880	85	30	5	516.0 "

It should be noted that the weights vary inversely with the amount of gold; the lightest one has gold of above

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6 pg. 56, "Counterfeit, Mis-Struck, and Unofficial U. S. Coins," Don Taxay, New York, 1963.

7 Certificates (3), Research Laboratory, Museum of Fine Arts, Boston, Mass., Museum Nos. T.L. 13,428, 13,429, 13,430, Examination Nos. 67.10, 67.11, 67.12, all dated May 5, 1967 (Appendix items, Nos. 25-27).

Federal standard fineness, the heaviest is a little low in gold content, exactly as would have been expected in fancy experimental productions. Of course, the test results for these three coins cannot begin to tell the story of USAOG experimentation, but they confirmed to me that most, if not all, of the Franklin Hoard USAOG twenty dollar coins, were experimental strikings in various alloy combinations.

If the above list were longer, with test results from many other coins, we would have a basis for evaluation that would better tell us Humbert's motives. As it is, we can assume that the alloy experiments began in October 1852; we know that they continued into 1853. We know that the systematic addition of small percentages of copper, and varying the proportions of gold and silver (by adding pure gold from a 999 Fine Proofing piece), would produce the desired mixtures for comparison. California gold, normally paler and more greenish than the eastern ores, could be altered in appearance only subtly by such fiddling around. Walter Breen has ventured the guess that alternatively, the very slight differences in appearance that can be made out might well have been useful for on-the-spot preliminary estimates of fineness of samples of coins brought in. If, as I suspect, the group of seven perfect prooflike coins represented part of a larger group comprising finenesses from, say, 850 to 950/1000, with varying proportions of copper alloy added to the normal silver, their purpose will be

clear enough in this context. However, that supposition, as well as my earlier guess that Humbert strove for compatibility in appearance with regular U. S. gold coins, can only be held in abeyance until X-ray fluorescence studies have been made on the remaining perfect prooflike twenty dollar pieces and similar coins from the Franklin Hoard. For all we know, the unearthing of the long lost internal records and correspondence of the USAOG, particularly the letters exchanged between San Francisco and Philadelphia, might indicate a completely different reason for Humbert's experiments. The fact that the various Franklin Hoard USAOG coins were struck upon highly burnished planchets is significant. It might suggest that the experiments with different metal combinations resulted in badly discolored or streaked flans, which required extensive polishing for a degree of uniformity in appearance. Or, more likely, groups of these prooflike coins were prepared for T. Butler King and other officials, to illustrate the similarity of appearance produced by such manipulations.

While awaiting the results of the Museum of Fine Arts tests, I asked Harvey Stack if he could make arrangements for additional X-ray fluorescence tests. He eventually did so, and told me that I could have eight or ten coins tested. I particularly wanted to know the composition of the remaining six perfect prooflike pieces, and in this regard asked for the Garland, Kagin and Sloss examples. The Garland coin was

not available, being the subject of other studies. The Kagin coin was sent to me by Newman on July 28th, far too late for any kind of laboratory work. Dr. Sloss simply ignored the request to send his coin for alloy determination. These actions indicated to me that the Study Group members were clearly afraid of any data prejudical to their conclusions arrived at long ago.

The irrefutable evidence that the Franklin Hoard USAOG coins constitute experimental alloy trials substantiates my earlier contention that Fuld and Newman misinterpreted the Fuld X-ray diffraction tests. In the face of the Museum of Fine Arts tests the claim that the Franklin Hoard USAOG twenty dollar coins are forgeries becomes totally preposterous. Are we to believe that a forger would have made separate melts with exactly calculated alloy percentage compositions, not detectably different, for each of several prooflike coins? How would such a person have known to predict different alloys? (Where did he do such work? Why did he do it?)

There is much additional collaborative evidence that all of the Franklin Hoard material is authentic and originated in 1852-53. For instance, I have a $44.77 essai coin ingot with an A. HUMBERT U.S. ASSAY obverse (see my TG-117). This is "F-1" of the three different "tight target" obverses, which I call F-1, F-2, F-3. The use of U.S. ASSAY (without the -ER) is found in but one other place. That is on the reverse of an

1852 ten dollars, 884 THOUS., copper pattern. This unique and unpublished coin, unknown to Adams, is in the Johns Hopkins University collection, and was only brought to my attention in recent months. Perhaps a better case in point is the badly rusted die that Franklin obtained for me in 1958 (my D-105), earlier mentioned, and two related items. The die was brought to me so badly rusted and corroded that in order to read it I had to soak it in a rust removing solvent. It is still severely rusted, so much so as to prevent any impression of any kind to be taken from it, even if I believed the die would remain unbroken if so used. The only known impression from this die is found overstruck upon the obverse of an 1852 large cent. It is muled with the conventional USAOG twenty dollar obverse, apparently not yet in Group IX condition (USAOG-121). As the cent overstrike shows an impression of this identical die in unrusted condition, and is heavily patinated, clearly it was made earlier. Franklin obtained the overstruck cent while on a trip to Arizona, June 29 - July 27, 1959. He gave it to me as a gift upon his return. About a year earlier, while on a similar trip, Franklin obtained a rubbing of a $38.00 ingot of ARGIENTI / & Co. / BANKERS. This piece was dated 1851 and bore a logotype die stamp reading SHULTZ & CO / ASSAYER in small letters. It was validated by being counterstamped by two USAOG die stamps, one of them of the four line tablet type, the other from a logotype reading A. HUMBERT / U.S. ASSAYER (my TG-132, USAOG-129). Both USAOG

overstrikes obscured pertinent components of the original ingot, one of them covering ARGIof ARGIENTI, the other half of the four numeral denomination stamp. In spite of the value of this highly important piece being seriously compromised by the two validation stamps, I asked Franklin to obtain it, which he did while on the 1959 trip mentioned, and he sold it to me at the same time that I obtained the cent overstrike.

Adams, in discussing the operations of Shultz & Co., reproduces a biographical sketch of William Thompson Garratt, who was Judge Shultz's partner.[8] In both the published sketch and in a dictated statement, Garratt states that he and Shultz coined for Argienti & Co., bankers, and that they made a great many dies for other private coiners. He is also quoted as saying that Albert Kuner engraved the dies made in the Shultz & Co. foundry, and that he was responsible for the turning or machine work on them.[9] Therefore, we can safely say that Kuner was the engraver of the dies used to make the Argienti ingot, and that he made the SHULTZ & CO / ASSAYER logotype die stamp found on the reverse of that ingot.

Examination of the cent overstrike just mentioned reveals that the small letters punched into its 1852 reverse are identical to those of the SHULTZ & CO logotype and the "tight

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[8] pg. 75, "Various Californian Private Mints, 1849-1855," Part III of "Private Gold Coinage of California," Edgar H. Adams, Brooklyn, N.Y., 1913. (From) "Builders of a Great City," San Francisco Journal of Commerce Publishing Co., S.F., 1891, Vol. I.

[9] ibid. Pages 75, 76.

target" USAOG obverses. Small letters on the die of the cent overstrike include U, E, Y, S and R, with peculiarities enabling immediate identification: flat base on U, upper left serif of E and of Y missing (punches chipped), R with vertical tail placed well to r. and with very small tight upward curl, S with peculiar serifs. These letters are also found on both the Shultz logotype and my obverse dies F-1, F-2, F-3. Large letters on the 1852 reverse die of the cent overstrike (MOFFAT & CO.) include peculiarities on M, O, T, C and the ampersand identical to those found on ARGIENTI & Co. BANKERS and S.M.V. DOLLARS, etc. on the Argienti ingot. Easily recognized is the square chip out of the upper left corner of the T.

Equally careful examination of the (1853) A. HUMBERT two line (LAGERTYPE) logotype die stamp reveals that the same identical small letter punches were used to make it, as were used earlier (via the SHULTZ & CO (LAGERTYPE) logotype) on the 1851 Argienti ingot, subsequently to make the 1852 "MOFFAT & Co." reverse, and still later to make up the three different "tight target" obverses, F-1, F-2, F-3. Not only was the identical alphabet of letter punches used, but the A. HUMBERT validation stamp tells us that some of them were replaced: the A, H, M, B, remain the same, but the U, E, Y, S and R, have been replaced by different letters not defective. This is, as would be expected, new

letter punches being made to replace defective ones, non-defective ones remaining in use.

Adams makes it clear that Kuner earlier (1849-50) did work for Moffat & Co.,[10] making him the logical local source of letter and numeral punches and dies for both Humbert and the USAOG. Further study of the rich historical source material provided by Edgar H. Adams suggests that the badly rusted "MOFFAT & Co." reverse die dated 1852 was made early in that year, probably simultaneously with the dies for the Moffat 1852 ten dollars, 264 GRS., which does not bear Humbert's name on the reverse, but which does have the eagle design used by Augustus Humbert on pieces of different denominations. Additional reading and analytic study indicates that the "tight target" obverse dies (see USAOG-132) were prepared in San Francisco late in the summer of 1852. There was a definite need for an ingot design minimizing the number of new denominational dies that would be required, as well as for one suitable for both alloy combinations and coins of the twenty dollar denomination (see my TG-118 and #1 of 9/2/66, as well as the piece in the Lilly collection). The last Humbert (1852/1) twenty dollar coin was struck on April 2, 1852[11] (AH-100), and obviously the hubs for the 1853 USAOG twenty dollar coins did not arrive until late in the year. Confirmation that the F-1, F-2, F-3 obverses were made in August or September 1852, is established by the fact that the USAOG issued bars commencing

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10 ibid. Page 94.

11 See monthly reports of A. Humbert, U. S. Assayer, and the United States Assay Office of Gold; (National Archives: Records of the Bureau of the Mint, Record Group 104, Treasury Section.)

in October 1852 ($300,275.21 worth)[11] and we know that the "tight target" type obverse was subsequently used on such bars since at least one survives (see my TG-119, a $83.71 bar bearing a serial number).

With the correct chronological progression of the 1851 SHULTZ & CO logotype, the (early) 1852 "MOFFAT & Co." reverse, and the (later 1852-53) "tight target" obverses clearly defined historically, we find that their punch-linkage to the (1853) A. HUMBERT two line logotype die stamp makes sense. With such progression confirmed by the replacement of five defective Kuner letter punches on the A. HUMBERT logotype, the cry of "forgery" sounds even more ludicrous and ridiculous than before.

The only logical choice of an individual who had access to government hubs, or to dies made from them, collars, and simultaneously dies, logotypes and punches by Albert Kuner, would be Augustus Humbert or one of his employees. Duplication of the parts of four old Kuner alphabets would be impossible. Creating extreme rust on an old die or ancient patina on a cent overstrike in a very short time would be almost equally impossible. No counterfeiter in his right mind would waste time trying to manufacture, at inconceivable expense in research and production, obscure material like a SHULTZ & CO logotype, stamping this onto

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[11] See monthly reports of A. Humbert, U. S. Assayer, and the United States Assay Office of Gold; (National Archives: Records of the Bureau of the Mint, Record Group 104, Treasury Section.) See footnote previous page.

an ARGIENTI & Co. ingot (itself made with enormous difficulty and expense), and then ruining his own handiwork by twice stamping it (in the worse possible places) with two different (again fabricated with great difficulty) USAOG die stamps. The ad hoc assumptions required to sustain any such notion as that a forger made all of the two dozen or more hubs, dies, puncheons, alphabets, logotypes, collars and similar items, required for the Franklin Hoard material that I either now own or have handled, are too farfetched to remain this side of lunacy. The necessary amounts of time, effort, research, planning, material and costs, not to mention the difficulty in producing many pieces in different precise alloys requiring different melts of gold and silver, are stupendous in the extreme. We are asked to believe that all this was done in a short period of time. We are asked to believe that it was done for comparatively trival amounts of money-- as a practical joke without unusual financial rewards being anticipated. It would be easy to demonstrate that the total amount made from the sale of all of the Franklin Hoard material, from coins to proofing pieces, by the supposed forger, would not begin to cover the expenses required for doing the necessary research, assembling the materials, making the hubs, dies and collars, creating the alphabets if he had not managed to discover original sets of punches (recorded as having been destroyed by fire in 1906, making the dozen or fifteen different

meltings of gold alloys, and otherwise creating these obscure items.

We are asked to believe all the above profusion of equipment, of research, of manufacturing difficulty. We are asked to believe that mint facilities were available for melting and refining, drawing and rolling, cutting and stamping, not to speak of coining presses capable of hubbing steel dies. We are asked to believe that one man did all this undetected, and while doing so, managed to completely fool and deceive the author of this document.

If the Garland owned perfect prooflike example is false, then all of the coins, essais, ingots, experimental, trial and proofing pieces, linked to that coin by punch or die impression, much less source, are all, without exception, also false. There is no alternative: either all, including the Argienti ingot and the 1852 Moffat die, are fraudulent, made at unimaginable costs and difficulties, or else they are genuine. If false, the amount of additional explanation required is immense. If genuine, they are all readily explainable without introducing ad hoc assumptions.

I thought the Franklin Hoard items genuine as I obtained each one in turn and studied it. My records and research of the past ten years, and, most particularly, my work of the past few months, only confirms that consistently held opinion.

In closing, I would like to thank Walter Breen for his tremendous help in checking my conclusions and for independently studying the Franklin Hoard material in its entirety. I would also like to thank Harvey Stack for his continued assistance and, last but not least, Larry Steur, of the Medical Illustration section of the New York City VA hospital, for his magnificent photographic work.

John J. Ford, Jr.

August 1967

AN ORGANIZATION INTERESTED IN THE PROBLEMS OF THOSE WHO OPERATE SMALL MINING PROPERTIES IN ARIZONA

ARIZONA SMALL MINE OPERATORS ASSOCIATION

OFFICE OF STATE SECRETARY
CHARLES F. WILLIS
508 TITLE AND TRUST BLDG.
PHOENIX, ARIZONA

October 23, 1953

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WINKELMAN
YARNELL
YUMA

Mr. Paul Franklin,
964 Amsterdam Avenue,
New York 25, New York.

Dear Mr. Franklin:

Thank you for your letter of October 21. I cannot tell you what a thrill it was to receive the paper weight or pocket piece of silver which came from an old Arizona mine. I had heard about these but had never seen one although some of the old-timers say they were relatively common many years ago.

I have not had a chance as yet to dig in to find out anything about the Thorne Mining and Refining Company. There is nothing in the easily available records. However, we will do some digging to see what we can find out.

We may have to put a little story in Pay Dirt to see if some of the old-timers can furnish us some leads to ascertain who they were and when and where they operated. This story would give us an opportunity to ask others if they know of similar bars of gold and silver.

It was very thoughtful of you to send this to me.

I wish to acknowledge and especially thank you for the Money Order for renewal of membership and donation to our Special Expense Fund. Your receipts are enclosed.

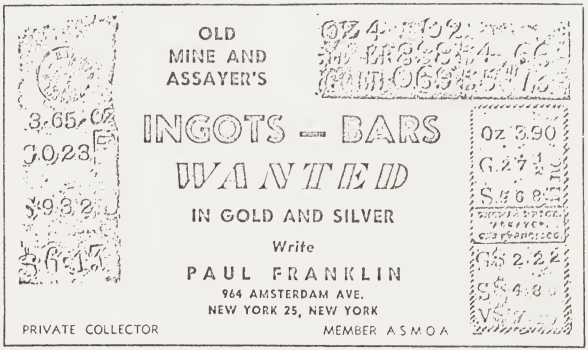
Hoping we will be able to obtain additional information for you, and with kindest regards, I am

Sincerely,

Charles F. Willis

Charles F. Willis
State Secretary

CFW:VSW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#2

INFORMATION LEADING TO THE PURCHASE OF

OLD WESTERN GOLD, ELECTRUM, SILVER, NUMISMATIC BARS AND INGOTS

TOGETHER WITH PRIVATELY MADE GOLD COINS,

"PIONEER MONEY" MEMORABILIA;

AT EXTRAORDINARILY HIGH PREMIUMS

WANTED!

From 1849 to about 1900, various individual Assayers, Private, State and even Federal Assay Offices, Bankers and Mining Companies, manufactured and issued bars and ingots. Composed of Gold, Silver, or a combination of both as a natural alloy (Electrum), these pieces originated in the territories and states of CALIFORNIA, ARIZONA, NEVADA, UTAH, NEW MEXICO AND COLORADO. Some have even been found from OREGON, WASHINGTON and IDAHO; others, from MONTANA and SOUTH DAKOTA, are said to have been made. In addition to these western bars and ingots, similar items were made about the country at the various U. S. Government Assay Offices, along with issues of Alaskan-Canadian manufacture (from the period of the Klondyke gold rush, 1897-99).

Sometimes crudely cast, often carefully finished, these precious metal bars and ingots were invariably stamped with the name of the issuer, sometimes with the place and date of manufacture. Almost all have the composition and fineness, the weight, and the value in Dollars and Cents also stamped upon them. Rarely, some are found with a stamp from a die, resembling a coin in appearance.

In the early days, Gold, Electrum and Silver bars and ingots were freely used as money, and are found with "even amount" denominations, such as Ten, Fifteen, Sixteen, Eighteen, Twenty, Twenty-Five, Fifty, One Hundred and Two Hundred Dollars. If dated, and from either California (1849 to 1856) or Colorado (1859 to 1862), issues of this type can be of great importance to a collector. However, the great proportion of these pieces, are found stamped with highly odd amounts ($2.66, $8.76, $13.55, $31.60, $54.50 and so forth), representing their exact value at the time. Almost all of them are the results of conversion, by an Assayer, of raw dust or metal brought to him, assayed and put into identifiable form.

Tremendous numbers of these bars and ingots were issued by a great many individuals and firms. Only in recent years, have collectors and numismatists began the study of them. While made in very high quantities, a large number of these pioneer bars and ingots were melted, either at the U. S. Mint in San Francisco, or as they were brought back east. Those that were saved or retained, were kept as souvenirs or mementos, and are generally the very small pieces, although a few medium size ones have been discovered. Obviously, the really large ingots and bars (often made to discourage stage robbers and highwaymen), were worth considerably more as they found their way towards civilization, and few people could afford to hold onto any of them for sentimental or historical reasons.

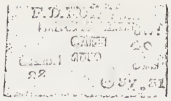
While not rare in the literal sense of the word, the various bars and ingots made are now hard to find. Almost all are held by people as family curiosities, and must be searched out. Although only a limited number of collectors of coins and western material are interested in these pieces, those that are do pay very substantial premiums (over the present day intrinsic or metal value) for them.

The value of a given bar or ingot is based upon how much is stamped upon it, when and by whom it was made, and its general appearance. The size of a piece means little or nothing. While a small gold ingot, marked Ten Dollars, and issued in 1852 could be worth twenty to sixty times its present day bullion content of about $16-17.50, a large gold piece might only command quadruple the metal content. Electrum bars and ingots are of somewhat lesser importance than gold ones, and silver ones bring from $25 to $350 each, the latter figure only in rare instances.

Of equal importance to the actual bars and ingots themselves, is the historical data and background concerning them. Letters, correspondence, drafts, checks, broadsides, directories, and even contemporary newspaper accounts, relating to any individual or company that made bars or ingots is of interest and collector's value. Also collected are gold coins made in the west, patterns and trials in any metal for them, unofficial coin dies and hand presses, paper money privately made in any western state before 1890, the letter and numeral punches used for making bars and ingots, bar and ingot moulds and almost anything else concerning western coins, bars and ingots, 1849-1900.

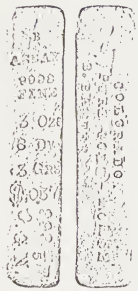
3

Valuable, privately struck fifty dollar piece.

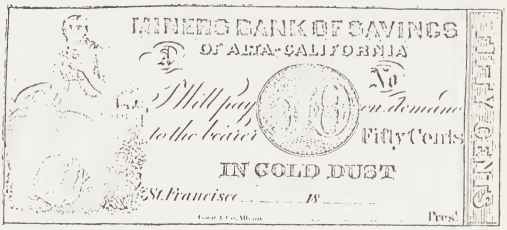


California State Assay Office bar, issued in 1850. U. S. Assay Offices made similar pieces, particularly "The United States Assay Office of Gold," San Francisco.

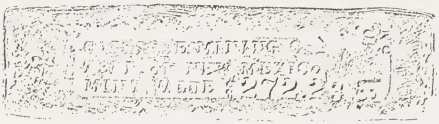
Small, unidentifiable gold bar, made early in the Gold Rush, to satisfy a strong demand for convenient mediums of exchange. Of interest, but most collectors prefer bars and ingots bearing the maker's name and location.



Unusually pure, long bar, made by Bates, Baxter & Co., about 1865, Mountain City, (Central City Dist.), Colorado Territory.

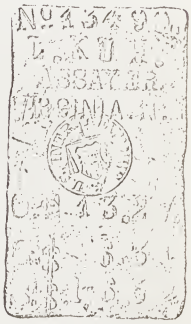


The fractional note at right was printed in Albany, N. Y., and was intended for use, 1851-52, in San Francisco. Several firms made and issued their own paper money in the West, 1850-1897. Bank, Express and Mining Company drafts and checks are also of interest to collectors. While hardly as valuable price-wise as are many bars and ingots, such paper script is of great historical importance. Still, this money you can't spend is often worth more than the regular kind.



Gold ingot for $272.23, made in New Mexico Terr., 1870-75.

At right, an electrum or mixed metal assay ingot, issued at famous Virginia City, Nevada, by L. Kuh, a Chinese assayer, in the heyday of the great Comstock Lode.



Some privately made gold coins closely resemble the regular government issues. This 1860 Five Dollar gold piece was made by Clark & Co. in Denver City, Colo.

Other "Pioneer" gold coins are of original design, like this Ten Dollar gold piece of the Cincinnati Mining & Trading Co.

Collectors of old and rare western gold coins pay for them according to rarity and condition. The 1849 piece at left, struck in gold, is worth many thousands of dollars.

WRITE TO

PAUL FRANKLIN

COLLECTOR'S REPRESENTATIVE,

Collaborating with

JOHN J. FORD, JR., ROCKVILLE CENTRE, N.Y., SPECIALIST IN "MONEY OF THE AMERICAN WEST,"

POST OFFICE BOX 3232

SCOTTSDALE, ARIZONA 85257 TELEPHONE: (602) 947-3397

Send detailed description or careful pencil rubbing of any bars or ingots located; other material describe very carefully.

ALL CORRESPONDENCE ANSWERED. INFORMATION EXCHANGED, APPRAISALS GIVEN IN CONFIDENCE.

PERSONAL TRIPS MADE TO ANY PART OF THE U. S., WHEN MATERIAL WARRANTS.

(Rare gold bars and ingots will be purchased pursuant to section 54.35 of the Gold Regulations, under the licensing requirements of the Office of Domestic Gold and Silver Operations of the U.S. Treasury Department.)

©1966, JOHN J. FORD, JR.

1130

Mesa Arizona
Sept 1953

My Dear Mr Franklin;

You are certainly getting to be quite a writer. I really do not know why I am going to all this trouble for you as I do not need the money.

All your questions are too numerous too answer. The bar with the three impressions on it I wish to retain and is not for sale at any price at the present time.

I visited my sister about two weeks ago and mentioned the articles I sold to you. She recalled that in my deceased brothers possessions, which she has, there were a considerable number of gold and silver coins. there are two that probably will be of interest to you. Both show the same impression as that on the large bar you purchased from me in Aug. They are both Twenty dollars in gold. One which my Sister wishes to keep has a fancy gold link soldered to it, so that it can be worn as a charm. This one is larger than the other and struck off to one side one side like those coins you showed to me on one of

your earlier visits here. The second one I borrowed from her to have the enclosed photographs made. It shows evident signs of use and this I do not understand as I am sure they were never put into circulation but of course I could be wrong. If you are interested in it I may be able to get it from her for you.

I am not hoping to hear from you but if I know you I probably will. Good health and ADIOS

#4A

Mesa Arizona
Oct 18 1953

Dear Mr Franklin;

I am sorry if I caused you any alarm with the empty envelope,it was by accident that it was mailed without contents. This one should more than make up for my mistake. Sorry to say that my Sister is unwilling to part with the other Twenty at any price. I will go through the other coins at the earliest possible moment and let you know if there are any coins of other California Companies.

I am enclosing the Twenty I sent you the picture of and you may let your friend examine it and determine its worth. It is hard for me to say whether your offer is fair or not. I'll mull it over and let you know. My Sister is leaving the business end of the deal up to me, I naturally want to do the best I can and I believe the coin should bring a considerable amount above the price you mentioned. Let me know if you think you can do better. Wishing you luck and good health.

Sincerely F. Korff

Sven Skaar, Blue Tent Road, P.O.Box 445, Nevada City, California.

Owner 49er Museum
President Nevada County Historical Society.

Mr. Paul Franklin

30 Phillips Road

Massapequa Park

L.I., N.Y.

Dear Mr. Franklin:

The Chamber of Commerce gave me your letter to answer.
Yes, I know quite a bit about assayer James J. Ott. As a matter of fact I'm just preparing a paper on him for our Society's next Bulletin, and I'll send you one when it comes off the press.
By the way, you ought to join our Society as I believe you'd like to recieve our bulletins. Membership gets you only one dollar per year. If you're interested send a check for that amount to N.C.H.S. % Charles Buck, National Hotel - he's our treasurer.

Yes, I have a couple of Ott's bars. I thought I was the only one who had one. You see, I bought the office when his son died in1953. I bought it to preserve it as the new Highway is going straight through this lol year old business house.

I can't remember exactly what the gold contents of the bars are- they're in the bank, but I believe one is in the neighborhood of $15.- and the other about 50 if I'm not mistaken. Is yours for sale and if so how much do you ask for it?

Sincerely yours,

Sven Skaar

P.S. I collect Western Covers — especially Calif. expresses. Ghost towns etc.

S.S

FFP6

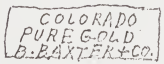
Nov.9,1952

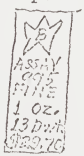
Mr. John J. Ford,Jr.
15 Aldin Lane, Island Trees
Hicksville,L.I.,N.Y.

Dear Johnny;

Finally received a letter from my friend in Phoenix regarding the second Gold Bar that I spoke to you about in your office several days days ago. He has gotten ahold of several others since then . I am in doubts about getting all of them from him but may be able to acquire a few, I hope.

Below is an exact copy of his description of the piece. He also acquired one twice as large with practically the same inscription.





Sounds interesting and I can't wait to see it. I told him to be on the lookout for gold and silver bars of the type in the photographs you sentme.

All I could discover on my trip out there was straight silver bars with no sign of gold mixed with any of them. He gets around a lot more than I did tho so I have high hopes.

Hoping to hear from you soon and that all is well with you and your wife.

Sincerely yours
Paul Franklin

STRASSER, SPIEGELBERG, FRIED & FRANK

120 BROADWAY, NEW YORK, N.Y. 10005

212-964-6500
CABLE "STERIC, NEW YORK"
TELEX 620223

WASHINGTON OFFICE
1700 K STREET, N.W.
WASHINGTON, D.C. 20006
202-296-3300

ARTHUR L. STRASSER (1905-1967)

MILTON R. ACKMAN
FRANKLIN L. BASS
JOEL DOLKART
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ARTHUR FLEISCHER, JR.
HANS J. FRANK
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SAM HARRIS
EDWIN HELLER
LESLIE A. JACOBSON
RICHARD O. LOENGARD, JR.
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DANIEL B. POSNER
ROBERT H. PREISFEL
WILLIAM I. RIEGELMAN
LAURENCE ROSENTHAL
PETER J. RYAN
LEON SILVERMAN
HERMANN E. SIMON
GEORGE A. SPIEGELBERG
LEWIS A. STERN

June 26, 1967

OUR REFERENCE

848

Mr. John J. Ford, Jr.
176 Hendrickson Avenue
Rockville Centre, New York

Re: John J. Ford
1853 $20 Gold Coin

Dear John:

Today after you left the office, I received a call from George Blassis, who is Jack Brown's partner. Blassis tells me that he makes regular trips to Ajo, Arizona on business and would be willing to find out whatever he can about the Lynn situation. He tells me that Ajo is a captive town, being dominated by the Phelps-Dodge Company and having adjacent to it a copper mine. This industry apparently takes the entire population of the town.

Blassis knows some of the older residents of the town and is going to try to check out the matter. He will not be able to go there before some time after the 4th of July week-end, but tells me that we should get a report from him before the middle of July.

I will let you know as soon as I hear any further word from him.

Best regards,

Sincerely yours,

Laurence Rosenthal

LR:mm

IFS

JACK E. BROWN
GEORGE P. VLASSIS
C. RANDALL BAIN
PAUL V. BONN
JOHN J. ROSS
GEORGE E. HILTY
PAUL F. ECKSTEIN

BROWN, VLASSIS & BAIN
222 NORTH CENTRAL AVENUE
PHOENIX, ARIZONA 85004

AREA CODE 602
254-6033

July 25, 1967

Your Reference 848-1

Dear Mr. Rosenthal:

I have made a number of inquiries of a number of "Lynns", but I have not (until receipt of your letter) been aware of the fact that a member of the Lynn family may live on the road to Gila Bend. To this date my inquiries have been fruitless, but perhaps the Gila Bend Lynn will prove more valuable.

Very truly yours,

George P. Vlassis

Laurence Rosenthal, Esq.
Messrs. Strasser, Spiegelberg,
Fried & Frank
120 Broadway
New York, New York 10005

GPV/to

#9

DR. GEORGE FULD
P.O. BOX 9035
AKRON, OHIO 44305

9/30/84

Dear Mr Allshouse:

A number of independent "experts" are reexamining the so-called "proof" and dark strike 1853 US Assay office 900 fine $20 pieces. These pieces, of which you owned several at in 1958 are "counterfeits" - (only can speak of the ones so far seen & examined!) — however the most horribly deceptive we have ever seen.

If you still own any, we would like to examine & photograph it & it will be promptly returned to you. Send to us fully insured by registered mail, & will check & send to Eric Newman & he'll return directly to you.

Any light you can shed on this matter would be sincerely appreciated. You can call us at any office 799-4197 (area 216) from 8:30-4:30 or home 836-1553 If you want please don't discuss this

with John Field, although he is
aware of the investigation.
I am leaving Nairobi for
several days on Monday AM and
so would appreciate your prompt
reply.

Thanking you for your cooperation
and

Cordially,

Abid Ali 434

Excuse handwriting. Just moved.

NUMISMATIC GARLANDS

By

Paul E. Garland
17556 PARK AVE.
MELVINDALE, MICH.

Beyond the woods, where the river curves, there are no rapids and the water flows smoothly. Farther downstream, the rocks make an angry current out of a stream that was soft and silent.

Have you ever purchased a coin that exceeded more than a thousand dollars in value? Lots of collectors have. How would you feel if you made a purchase of this nature and later found the coin to be counterfeit? Would you be angry? My thoughts tell me you would answer the foregoing question by saying, "I would have the coin authenticated." Now, I must ask you where you would have the authenticating done? More than apt your answer would be a major coin dealer. Let me tell you this. There are no coin dealers in this country capable of determining authenticity. They do not have the costly Xray equipment on hand to do the job.

To anyone who has found himself in the above position, I have a few words of advice. If you purchased the coin and accepted a piece of paper attesting to the genuiness of the specie, regardless of who issued the paper, I would have the coin Xrayed. This is the only way to know for sure that your coin is genuine.

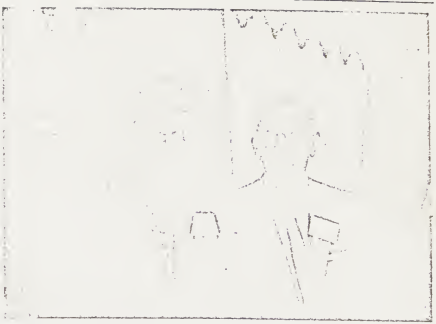
The cost of this operation exceeds the value of most key coins, causing a problem that can only be rectified by one of two groups: The American Numismatic Association or the United States Government. Sound reasoning tells us that the A.N.A. is the agency to select. But, so far, their attitude has been: "This problem does not exist or somehow it will correct itself." It does exist and furthermore, it will not correct itself. The counterfeit coins are coming into our market today at an alarming rate. Fortunately, most of them can be detected with the eye. However, some of them are not this easy to detect. It is against these that we must take concrete steps to halt a menace before it devours our hobby.

The A.N.A. should set up an authentication center even before it builds a home. This problem could be the one reason that a home will not be needed if allowed to continue. This service should be made available to any member at cost. Then when we purchase an item of this nature, we will not have to rely on the word of an individual that the coin is genuine.

To those of you who doubt me, let me make it clear that there are counterfeit coins on the market today that no dealer can detect without the aid of special equipment. This equipment costs far beyond the means of the largest dealer in America. I am not fooled by the braggarts who attend coin conventions for prestige, and who brag of the size of their holdings. Most of them are there to acquire or sell items to pay next month's rent, the same as most of us common dealers. The only difference is our hat size remains the same. Therefore, it must be an organizational effort to build this center.

I have seen false coins from the foremost validators known. In fact, I am the not-to-proud possessor of a false coin that I paid three thousand, three hundred dollars for. It is as false as Hensteeth. This coin has a pedigree all the way back to the press. It was declared genuine by the best known house of authentication in our country. In fact, it was declared a proof. It has passed through the hands of several of the best known and trusted dealers in our country. Other pieces are now resting in the collections of some of America's best collections, with the owners totalling unaware that the pieces are counterfeit.

At this writing the river is smooth on the surface, but the undercurrent is boiling. Together with John Pittman, Dr. George Field, Eric Newman, and several other of the best known Numismatists in the country, we have been able to prove that the coin is false.



C. W. Rankin of Fayetteville, N. C. new President of The North Carolina Coin Clubs Association with H. Mack Owen, (left) of Salisbury, N. C. who is the newly elected Secretary/Treasurer of the North Carolina organization. This photo was taken in the display room at the NCCC Association convention which was held in Raleigh, North Carolina recently.

Several letters have exchanged hands, threatening law suits and other attempts to silence us; but the public will know the facts. If any of you are fortunate enough to attend the G. E. N. A. Convention in New York, the first week-end in December, be sure to attend Dr. George Field's talk in the Educational Forum on this very coin. We intend to see this through. You may also want to read Dr. Field's article, "Origin of Washington 1783 Cent," in the November issue of the Numismatist to see the thoroughness of this man's work. Do not confuse this Washington Cent as the coin I have been writing about, because it is far more valuable than any of these.

It would be possible to reveal the entire story now, but as yet we do not know definately who made them. We also want to examine two more pieces, and at this time we cannot locate the owners; because certain dealers will not tell us who owns them. It would help immeasurably if these people would consent to the requests of our group voluntarily; otherwise, they will be requested to do so by government agents.

I hope by next month or January at the latest to be able to tell you the rest of this story. Until then, May God bless you and May all your coins be genuine.

NEUMAN
10/11/64 PS. 2

ASKED EDN TO VISIT

PAUL FRANKLIN
8302 E. MONTEREY WAY
SCOTTSDALE, ARIZONA 85257

Nov.23,1964

(1)

Dear John;

After our phone conversation the other day , I started to think about my past numismatic dealings. More than twenty five years ago I both bought from and sold coins to such people as Abe Kossoff, Joe Silverman, Dave Bullowa, Boss and Nagy of Phil. F.K.Saab, Smith & Son, Charlie Green, Stacks, Max Mehl and numerous others, many now deceased but many still living. I had nothing but a wonderful time in my dealings with these people. I also know they thought well of me and the dealings they had with me. In later years, the late forties and fifties, such people as Mrs.C. Bullowa, M.L. Kaplan, Leo Young, Hans Schulman, Friedberg of Gimbls, Lester Merkin,and numerous others including Empire Coin Co., W.F. Steinberg, and last but not least New Netherlands, These people too had many pleasant dealings with me. I still own many gold and silver coins bought from these people, such as my first San Francisco silver ingot from Stacks, A beautiful Moffatt $ 20. gold piece from a Schulman, Kreisberg sale, an unc. $ 20.gold United States Assay with uncrossed A's from Peter Seaby of London with the help of New NetherlandsCo.. A beautiful Unc. $50. gold slug (Humbert) from Bill Steinberg, and many many others just too numerous to mention.

With all the coins I have bought in over twenty five years I have never returned one for any reason (I know what I am buying and am satisified with it). I can also say that no one within my memory has ever returned any coin to me (that I sold or traded to them) for any reason whatsoever. (mis-grading, false or counterfeit). Even the old Crosby electros that I own I have never sold and would-'nt. Tho I have received more than fair offers for them. I have never sold a Known cast or electro but have given some away free, as you well know. Even these were of no United States Coin. Any coin or piece that I have ever sold, I stand ready to buy back from the original buyer for what he paid me for it. Tho I might have to take a second mortgage on the old homestead or put my collection in hock to do so.

FF13

PAUL FRANKLIN
6302 E. MONTEREY WAY
SCOTTSDALE, ARIZONA 85257

I am getting sick and tired of remarks and innuendos made behind my back, mostly by people I have never had dealings with and don't even know well. I am fairly even tempered and slow to burn but I think it is about time for me to consult a lawyer regarding my rights and the meaning of the words libel, conspiracy, and defamation. I also believe I should bring written charges against certain people,with the A.N.A. Dr. J. Sloss I have never met formally and know nothing about whatsoever. Eric P. Newmam I do not know well but I respect him for his numismatic knowledge and written works. He knows of me only through hearsay. John J. Pittmam I can say nothing well about so I say nothing. George J. Fuld I know well enough to do favors for and I just received a check from him for a Washington medal. He mentioned nothing in his letter to me regarding any conversation with others concerning me. I fully realize that these people have been members of the A.N.A. for a much longer period than I, with the exception of possibly George Fuld.

If such a group as I just mentioned have secretly banded to-gether to make statements,representations expressed either in print or writing, tending to expose me to public contempt or ridicule, this is called , I believe, conspiracy. If it hurts my reputation by being malicious, unfair or harmful, It is called defamation and is libelous.

Unfortunatly the trend of calling me the " Massapequa Mint" started with the trading to me of the small collection of medal dies formerly owned by F.C.C.boyd. This worsened with the purchase of the large Jos. K. Davison estate consisting of thousands of medal and decoration dies. The funny part is that the nearest thing to coin dies that I had and sold to such persons as Empire Coin Co.,R. Bashlow etc. (the impaired Wastoff xx shilling to Empire, the Continental Dollar to Empire, the Conway to Bashlow to name as you well know just a few) were used by them to strike thousands of restrikes or replicas. They do the dirty work,reap all the money and I get the bad name from people who do not even know the truth.

7139

December 3, 1964

Mr. Eric P. Newman
Edison Brothers Stores, Inc.
400 Washington Ave.
St. Louis 2, Mo.

Dear Eric:

I am doing something rather unorthodox, but I believe that I am doing the right thing.

Enclosed, you will find a photostat of the first two pages of a recent letter written to me by Paul Franklin. Paul wrote this letter following a telephone conversation with me, in which I advised him of the lengths to which the "Inquisitors" were going, and had gone.

You do not know Paul Franklin, and perhaps reading his letter, might give you an insight into the man. I did not know that he was writing this letter, and I believe that he wrote it when he felt both deeply hurt and angry.

I have since written to Franklin and told him not to get too excited, as the situation was under control.

Very best personal regards.

Sincerely,

John J. Ford, Jr.

JJF:dn

Encl.

INSTITUTE OF NUMISMATIC AUTHENTICATORS

WALTER BREEN, Founder Box 1032 · BERKELEY, CALIFORNIA

13 February 1967

Dear Mr. Ford:

The information you requested is herewith supplied.

You asked for an enumeration of United States coins of which collar varieties existed within a single year. The following list is incomplete but might be supplemented by examination of the ANS collection. It nevertheless should provide at least a basis for future research.

1837 Half Dollar. Four collars, one of them identical to that used on the 1836 reeded edge coin. (1) 29 mm. (2) and (3) 30 mm. One of these two is the 1836 collar. (4) 31mm. This is the rare one with wide rim around border beads, e.g. the Lathrop coin pictured by you in one of the NN sales. Other examples of the various collars are, or were, available in the NN stock.

1840 Half Eagle. Two collars. (1) 15/16", size of 1834-39 coins and apparently the same as some of them. This is the famous "Broad Mill" found on the earliest specimens of the year including the two proofs. (2) 14/16", size of 1841 and later coins; "narrow mill."

1840 C, D, O half eagles. Identical difference, broad and narrow mill varieties being known for each of these.

1876CC 25¢. (1) Regular collar, 119 reeds, found also on surrounding dates. (2) Rare collar, 153 reeds, found on a small minority of this date only.

1854 Gold Dollar. (1) Small size, type of 1853. (2) Large size.

1921 Morgan dollar. (1) Regular collar, 88 reeds. (2) "P.I.R." collar, 154 reeds, the discovery of Dr. W.Q.Wolfson.

1883 5¢ nickel. (1) 20 mm. Shield design coins are struck at this diameter. (2) 21 mm. Both Liberty head designs are struck at this diameter. Probably other small changes might be noted, in various denominations. A change of size in plain edge coins means a change of collar.

Other examples which should be investigated but of which I am less sure, having no coins to check up: (a) Half cents of 1831-36 appear larger than those of 1840-57, reflecting a change of collar size, parallel to (b): Large cents appear also to come in smaller size from 1840 (or 1844?) on than in earlier years. (c) There seems to have been a diminution in the sizes of dimes and half dimes after 1837. All these should bechecked at ANS. Likewise (d)(e) slight change of size in 1834 $5, $2½ [illegible]

If we enter the question of pattern and experimental pieces, the list becomes immense indeed. Only a partial survey can be given on the accompanying page and I am not certain how relevant this is to your purpose. Your inquiry did not limit itself to regular issues.

FF15

1854 Half dime. German silver, plain edge, rotated dies. J-166. Wide flan, struck in collar; evidently not in regular half dime collar.
1858, Cent.
Judd 194: AW 254. Cent, broad planchet, struck in collar. (Unique, from Longacre, A.S.Jenks, Maris collections.)
J-199: AW 247. Cent, broad planchet, struck in collar.
J-214, 216. Similar. Note the illustrations.
The other cents of 1858 are struck in the regular collar for Flying Eagle cents.

1860-61. Wider collars were used for making the pattern half eagles of this year, type of Judd 271 and 283, than for regular half eagles, in experiments to banish the platinum-filling menace.

1867. The aluminum 5¢ pieces come on much wider planchets, struck in collar, than the regular 5¢ nickel of the year. (Judd 561-562) Also, the unique (?) nickel J-565 appears to be wider than other nickels of the year, but the photographs I have are not good enough to enable me to take measurements. Note also that the mule J-582, 583 are struck in collar on unusually wide flans.

1868. The pattern 3¢ nickels of the year are in a 19mm collar, the regular--and the aluminum restrikes from regular dies--in the regular 18mm collars. The pattern 5¢ nickels of the type of J-623 come on 22 and about 26mm flans, struck in collar, some with reeded edges. Several of the other types of 5¢ also come broader than normal, c.21mm.

1869. 3¢ nickel patterns: 19 mm; regular dies, 18 mm. As for 5¢ nickels, same comment as to 1868. It is also familiar enough that all the Standard Silver 10¢, 25¢ and 50¢ coins are smaller than the regular issues, coming in plain and reeded collars of the identical sizes.

1871. The two 5¢ nickel patterns of the year come in 22mm and 20mm sizes respectively, the 20mm being regular size.

1874. Bickford's International eagle comes only on a much broader flan than the regular issue. This was intentional and doubtless meant to combat the platinum filling menace even as in 1860-61.

1878. It is familiar enough that the lightweight standard Goloid Metric dollars are on smaller flans, struck in collar, than the regular and pattern dollars of this year; and that the various $2½ and $5 patterns are much broader than usual, for the same reason as in 1860-61,1874. (See Judd 1566-1574.)

1879-80. The goloid metric dollars with all obverses, Barber or Morgan, are smaller than other pattern or regular dollars of the year; struck in collar.

1881. The two 5¢ patterns are in 22mm collars; regular issue 20 mm.

1882. Some of the 5¢ patterns measure 22mm, some 21mm, regular 20mm for shield type, 21mm for Liberty head. This is entirely aside from the blind man's nickels.

1913. Note the first patterns of the Buffalo nickel, adopted type, 0.839" (17 struck, 2 in Smithsonian, 9 in private hands, the rest destroyed) and 0.869" (4 struck, only one surviving in private hands).

Respectfully submitted,

For the Institute

#15A

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

DEPARTMENT OF HUMANITIES

Cambridge, Massachusetts 02139

December 2, 1966

Mr. John J. Ford, Jr., Numismatist
176 Hendrickson Avenue
Rockville Centre
Long Island, New York

Dear Mr. Ford:

At your request I have analyzed the contents of "An Inquiry into the Authenticity of a Hoard of $20 United States Assay Office Gold Pieces," dated August 1966, by one Eric P. Newman whose principal qualifications seem to be that he is the founder and controlling interest in the Eric P. Newman Numismatic Education Society, otherwise unknown to me.

On page 3 of this report he states "Any opinion expressed must be based upon certainty, and for that reason facts relating to inconclusive findings or speculation as to facts will be omitted----------." I quite agree with this standard of numismatic scholarship. Let us see how it applies to Mr. Newman's own analysis -- especially to his consideration of coin #6.

He states "These lines are very close together and are separated by identical distances. These lines are not arcs formed from the same center point but are part of a perfectly uniform spiral or helix [sic] with the center point of the coin as a center." How does he know? To establish this as a fact would require the most careful examination on an optical comparator. Has this been done? Or is this statement "speculation as to facts"? I would want to see certification of these "facts" by a competent physical laboratory of established reputation before I would accept them.

Mr. Newman goes on "This design is so perfect that it had to be produced on a lathe and could not be cut by a skilled hand in 1853 or now." Here he has got beyond his competence. Such a design CAN be produced by even a reasonably skilled lathe operator now, and was being produced as early as 800 B.C. (See my "History of the Lathe to 1850"). Any competent lathe operator since Maudslay's time can back off his cutting tool by uniform hand rotation of his cross feed control to produce this order of accuracy. Newman's statement here is not only "speculative as to fact"; it is not "based on certainty". In fact it is based on ignorance of common machine shop practice now and in the past.

1#1.6

Mr. Newman's argument continues in attempting to show that a lathe with automatic cross feed was required to produce such a pattern on coin #6 and concludes that "In 1853 the automatic cross cut device was not available on lathes in America." Here we have a categorical statement presented as based upon certainty, but in fact not at all based upon historical evidence.

We can consider two possibilities here. First, a lathe of industrial size, and second, lathes of watchmaker and jeweler capacities.

There is clear evidence (British Patent #6850) for automatic cross feed as early as 1835 and this feature was clearly embodied in an illustration of lathes offered for sale by Whitworth in 1843. Whitworth's firm was exporting these lathes all over the world. It is impossible to believe that this "device was not available on lathes in America" in 1853. American manufacturers at this time were so far ahead in their technical methods that a British Commission (of which Whitworth was a member) came over in 1855 to study them. These methods were imported into England (see Nathan Rosenberg "Great Britain and the American System of Manufacturing", Edinburgh U.P. 1966). Surely either Robbins & Lawrence in Springfield, Vt. or the Colt Armory, Hartford, Conn., or Brown & Sharpe, Providence, R.I. had such a tool. At the New York Exhibition of 1853 Whitworth lathes were exhibited. There is every reason to believe that such a lathe was available in the United States in 1853. Positive proof would, however, require further special research. But since I have already indicated that a lathe with automatic cross feed was not necessary to produce the marks on coin #6 and that lathes on which it could have been done were certainly available at many places in the USA, such research seems pointless.

In any case there is a second method by which these marks, whether concentric or spiral, could easily have been produced -- a jeweler's rose engine. Engines of this sort were available in Europe and in the United States prior to the American Revolution, without the shadow of a doubt (see my "History of the Lathe"). The question then arises -- Were such rose engines available in as industrially undeveloped a spot as California in 1853? Here we have conclusive evidence that they were, in fact that they were in the hands of the very man concerned in the United States Assay Office -- Augustus Humbert -- by 1851. Humbert, a New York watch case maker would certainly have taken his rose engine -- a critical and valuable tool for a watch case maker -- with him to California and such an engine would have been of a size involving no transportation difficulties on the way. We have clear and conclusive evidence that he did in the series of coins illustrated on pages 221-225 of R. S. Yeoman's "Guide Book of United States Coins", 20th edition, 1967. The designs shown on these coins positively could not have been made without a rose engine. On such an engine the marks on coin #6 could be easily produced.

Mr. Newman's argument against the authenticity of coin #6 therefore is completely unsound both technically and historically.

We come then to the problem of how such marks came to be on this coin. Mr. Newman's argument beginning with the last paragraph on page 11 (already obviously frantic and prejudiced by his use of words such as "devilment", "menace", "tragedy", etc.) is simply preposterous. I suspect that Mr. Newman knows this perfectly well, but doesn't want to admit it even to himself.

At a later date I shall write you describing a more rational and more technically sound explanation of how these marks on coin #6 may have come to be.

Robert S. Woodbury
Professor
History of Technology

RSW/ar

M163

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

DEPARTMENT OF HUMANITIES

Cambridge, Massachusetts 02139

December 8, 1966

Mr. John J. Ford, Jr., Numismatist
176 Hendrickson Avenue
Rockville Centre
Long Island, New York

Dear Mr. Ford:

Further to my letter to you of 2 December 1966 concerning the Newman "Inquiry into the Authenticity of a Hoard of $20 United States Assay Office Gold Pieces," dated August 1966. We have the question remaining of how the marks on Coin #6 were most probably produced.

Let us clear the field by stating at the outset that the techniques speculated on by Mr. Newman for "counterfeiting" this coin positively would not reproduce the fine curved lines, concentric or spiral, appearing on the eagle face of Coin #6 in a sector of approximately 30° to 200° from the vertical axis of the coin. The incredibly expensive and difficult techniques he describes could reproduce many features of a coin such as this, but the very fine lines in question would certainly not be reproduced with the clarity evident under high magnification of them.

We can also eliminate the possibility that they were put on the coin for ornamental purposes because: a) they do not extend over the whole face of the coin, b) they show no symmetry of design such as are to be found on the coins shown on pages 221-225 of Yeoman's "Guide Book," 1966.

Since we know that these coins were not produced in a fully equipped U.S. Mint and fairly clearly were produced by relatively simple methods, perhaps even hurriedly, we can accept as certain that these marks were unintentional or at least inadvertent.

ONLY SENT GROUP III COIN PHOTOS

It also seems likely that this "hoard" was a collection of trial pieces made at about the same time, since all have certain imperfections presumably common to one pair of hubs.

In the absence of certain knowledge that these lines on Coin #6 are portions of either concentric circles or of a spiral, let us consider both. If they are parts of concentric circles, clearly they were

#17

put on the coin for decorative purposes. If so, then why do they not form complete circles? Surely no one would maintain that they were intentionally erased from one sector of the coin and not from other sectors.

Unless, then, we have positive proof that these marks are concentric circles, we can reject that possibility.

The next, and far more likely possibility is that these marks are portions of a spiral cut in either the gold planchet from which the coin was made or in the die blank by which it was stamped. If they are portions of a spiral, as seems almost certain, they were certainly cut in some kind of lathe. What kind of lathe? They could be done in a rose engine, as I suggested in my letter of 2 December 1966. But a rose engine is intended for making quite light cuts, usually in the softer metals, and for ornamental purposes. Since my argument above eliminates intentional ornamentation (whether the lines are circles or a spiral) we can eliminate a rose engine as a very likely solution.

We are then left with an ordinary lathe, almost certainly with mechanical cross feed, but as indicated in my letter of 2 December 1966, not at all required to have automatic cross feed. Such a lathe was surely available in California in 1853. These lines on Coin #6 would be recognized as either those left by a cutting-off tool or those left by facing the end of the bar of stock to get a surface flat and perpendicular to the axis. When a bar of stock, presumably cylindrical, has a disc cut off from one end of it (the bar being held in a conventional chuck and not between centers), it is done by a tool with a narrow cutting edge parallel to the axis about which the bar of stock is rotating. The corners of this tool leave just such fine marks as are seen on Coin #6, and would be spiral. The same marks would be left by a facing-off tool. Since the cut in the latter procedure is light and usually made from the center to the outer circumference, it would be easier to do the work with more accurate spacing of the spiral lines in this manner. So of the two possibilities I believe that these marks were more probably made with a facing-off tool on a lathe with mechanical, but hand controlled cross feed.

The question then remains were they made on the planchet or on the die blank? To find these marks on the planchet used to make Coin #6 we would be forced to assume that the gold was worked into a cylinder of diameter at least as great as that of the planchet, a disc cut off and then faced on a lathe. In view of the practice since Da Vinci's day of producing the planchet by punching from a bar of gold of the requisite thickness and the extreme unlikelihood of anyone hammering out, drawing, or rolling a cylinder of gold of these dimensions, we can safely reject this possibility.

The other, and by far the most certain explanation, -- one which fits all the facts to be found on Coin #6, the facts of tool technology, the facts of tool history, and the logic of unspeculative common sense

#1719

is that these marks were made in facing-off the end of a steel cylinder for a die blank. This would be done on a quite ordinary and common lathe, using hand control of the mechanical cross feed. This cylindrical piece, contrary to usual practice, was then smoothed and perhaps polished on only part of its face, before the die was impressed. The remaining tool marks would then be reproduced exactly as found on Coin #6.

Why were these marks on the die blank not removed entirely before hubbing? There are a number of possibilities, no one of which is clearly indicated. Perhaps the material used in polishing the cylindrical die blank covered the marks until after the die impression was taken. More likely, the haste in which this obverse die was prepared might have precluded careful examination (and thus preparation) of the die blank. Either carelessness or the regular modus operandi of the United States Assay Office could be the contributable factor; after all, examination of the other "proof-like" coins in this hoard suggests that the blanks were polished extensively, not the dies. (The lines on the die could have been removed before the die was completed by fully polishing down the die blank, or after the blank was hubbed, by polishing down the die.) It must be remembered that this was not a U.S. Mint operation until the following year, and that the coins under discussion were undoubtedly produced hurriedly to meet the requirements of the San Francisco Collector of Customs.

To sum up:

1) There is a simple, clear, and logical explanation for these lines on Coin #6.

2) This explanation in no way rules out these coins being authentic.

3) The explanation offered by Mr. Newman is unsound technically and historically and certainly does not prove that this coin is counterfeit.

4) Mr. Newman's technique of the alleged counterfeiting of Coin #6 is too preposterous technically to be worth detailed refutation, and simply does not fit the facts.

Robert S. Woodbury
Professor
History of Technology

RSW/ar

#178

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

DEPARTMENT OF HUMANITIES

Cambridge, Massachusetts 02139

January 30, 1967

Mr. John J. Ford, Jr.
176 Henrickson Avenue
Rockville Centre
Long Island, New York

Dear Mr. Ford:

In connection with my letters to you of 2 and 8 December 1966 I have carefully examined the 1862 Half Anna of India, together with the enlarged photographs of it which you kindly sent me.

Despite the many scratches in the field of this coin there are very clear lines on the head of Victoria, both on the face and neck and in the hair and crown, which are certainly circular and centered about a point in one of the plaits of her hair just below her ear lobe. These lines are not at present to be found elsewhere on this face of the coin. But at least on the field, if they ever were there, any traces of them have been removed by whatever produced the criss-cross scratches now evident in the field.

Most of the analysis in my letter of 2 and 8 December 1966 would apply equally to this coin. It would be most difficult to establish that these lines are concentric circles, because of the limited number of them to be found on this coin as compared to those on Coin #6 of the $20 USAOG. But as in my previous analysis, in the absence of proof that they are concentric there is every reason to believe that they are spiral. They are certainly too regular to have been produced by purely hand skills. They are then, I am certain the result of lathe work. Lathes quite capable of doing this work, again with hand control of a mechanical cross-feed were certainly available in England and in India by 1862.

In short, it is my firm opinion that these lines are the result of essentially the same methods in preparing the dies used for the Coin #6 $20 USAOG. The reasons for doing this kind of work may, of course, have been quite different in India from those in San Francisco, but the techniques and the results are the same.

This 1862 Victoria Half Anna then definitely shows that the lines on Coin #6 $20 USAOG are by no means unique, and that Newman's statement on page 8 of his "Inquiry" that he is "unaware of such a marking on any other coin of any type," carries no weight at all in the question of the authenticity of Coin #6 $20 USAOG.

Robert S. Woodbury
Professor
History of Technology

#18

Telephone: ROYAL 8261 Ext.
702 3424
IF. 01-488 3424
YOUR REFERENCE
MINT REFERENCE 099/3/6.

ROYAL MINT,
TOWER HILL, LONDON, E.C.3.

16th February, 1967.

Dear Sir,

Mr. Warden has left the Mint and I am afraid there has been some delay in bringing your letter of 19th December to my attention.

I have shown your photographs to our Chief Engraver and he is inclined to think that your explanation of the raised lines is probably correct. As you know, prior to receiving blows from the punch the top of the die is turned to the shape of a cone. Usually the marks of the turning are removed by buffing but for some reason this seems not to have happened (or at least only partly to have happened) in the case of the two coins in question. The subsequent hardening of the dies would have exaggerated the lines.

I do not know which Mint struck the gold half-anna of 1862 or indeed which of the three Indian Mints were striking half-annas at that time.

Yours faithfully,

G P Dyer

(G.P. DYER)

John J. Ford, jr.,
Rockville Centre,
L.I., New York,
U.S.A.

#19

Box 426
Roslyn Heights, N. Y. 11577

July 15, 1967

Mr. John J. Ford, Jr.
176 Hendricksen Avenue
Rockville Center, N. Y. 11570

Dear John:

I have studied the report entitled "An Inquiry Into The Authenticity Of A Hoard Of Twenty Dollar United States Assay Office Gold Pieces", and am wholly in disagreement with both its technical content and all of its erroneous conclusions. Further, I have examined many specimens from the Hoard, as well as undisputed genuine specimens, and can unequivocally state that the Hoard specimens are authentic experimental pieces made from Hubbed dies -- the Hubs being directly attributable to the unquestionable master matrices!

The report was most disappointing; it shows complete misunderstanding of "Hubbing" and its normal practice -- which, in itself, readily explains the die progression noted.

However, I am concerned lest X-ray diffraction by the reflection method be looked askance at in the future, because of this erroneous report, and, therefore, would like to absolve it by commenting on page 9, paragraph 2, of said document.

> "Only coins number 2, 3, 4, 5, 6, and 7 were tested by X-ray diffraction and the photographic prints have been interpreted to show that the planchets for coins number 5 and 7 were cast rather than drawn, while the others were not cast. The photographic results show a much greater dispersion of the rays passing through numbers 5 and 7. The fact that planchets for numbers 5 and 7 are not rolled and drawn and differ from number 6 which was machined, adds further to the fact that abnormal planchet production occurred in these instances."

Comment: All planchets are derived from casting the gold alloy into slabs called ingots, the size and thickness of which is determined by the quantity of gold needed. Since this was experimental work and not production work, probably small batches of each gold alloy were carefully prepared and then melted and cast into small thin ingots. Pure gold is soft; it is hardened by alloying and "cold work" (such as rolling or striking). Copper is a hardener added to gold coins to make them more durable in circulation. The gold alloys used here contained various copper content, including none, and, therefore, when cold rolled to thickness "worked" differently. Some ingots required much more cold rolling to final thickness than others; thus the grain size of the former was smaller than

the latter by virtue of the metal being more compacted by additional working. Accordingly, we should expect to find planchets with varying degrees of grain size--fine to coarse.

All planchets prior to striking have to be heat annealed to make them sufficiently soft to minimize coining pressures and die damage and to prevent the struck coins from cracking. This striking of the planchets by obverse and reverse dies, together with the expansion of the flan edge into the reeded collar, work hardens the coin, especially in surface and near surface areas. Where coin thickness (as in this case) is appreciable, compared to the imparted "Design Relief", most of the metal deformation and flow is in these aforementioned areas. The section deep within the coin is not appreciably affected by normal coining pressures, and is, for the most part, of grain structure dependent on its prior history, i.e., cast ingot to final reduced thickness chronology. Since different alloys required different degrees of rolling and, hence, possessed varying grain size, the struck specimens also possessed varying internal grain size particles.

X-ray diffraction by the reflection method was used to draw an erroneous conclusion. This method, under favorable circumstances, can be used to measure the stress deformation imparted to a struck coin at its surface and near surface areas.* (See reference 1.) However, when the grain structure of the specimen is relatively large, or coarse, the X-ray diffraction rings show a much greater dispersion, making the stress determination most impossible! (See reference 2.) This is why line 2 of paragraph 2, page 9, says: "and the photographic prints have been interpreted to show that the planchets for coins number 5 and 7 were cast, etc.". Therefore, the X-ray diffraction method is inapplicable for those experimental coins with coarser grain structures, except to prove that they had comparatively coarser grains than other specimens by virtue of their prior history.

In short, X-ray diffraction is an excellent tool when properly used. To do so, its limitations must be carefully considered.

Sincerely,

Theodore L. Craige

TLC:AO
ENC.

Theodore L. Craige.

* As such, it is a valuable method to differentiate a cast coin, with a near perfect surface, from a struck piece. The former possesses no appreciable stress characteristic as a result of its molten metal cooling to form design relief, whereas the latter, by comparison, possesses substantial stress deformation due to huge striking pressures and consequent work hardening.

TA207

X-RAY STUDIES OF MATERIALS

A. GUINIER

Service de Physique des Solides,
Faculté des Sciences, Université de Paris,
Orsay (S.-et-O.), France

D. L. DEXTER

University of Rochester,
Rochester, New York

1963

INTERSCIENCE PUBLISHERS

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New York • London

NOTE

This enclosure contains reference 1, page 98
and reference 2, page 101.

#21

length of some gage under applied stresses. From the measured strains the stresses are deduced from knowledge of the elastic constants. For X-rays, the gage chosen is the reticular spacing of one of the families of crystalline planes. One difficulty arises in the application of the theory of elasticity, namely, that we work with crystals in which, even if cubic, a large variation of elastic constants can exist in different directions. Nevertheless, the material is treated as isotropic, an approximation which is sometimes justified because the polycrystalline metal is an aggregate of crystallites with diverse orientation and, at least macroscopically, *is* isotropic to a considerable degree. Still, the crystalline anisotropy has the consequence that the elastic constants determined macroscopically sometimes differ from those which must be used for X-rays. In the two cases a different averaging procedure is involved.

The internal elastic deformation of a metal is always very small, of the order or less than 10^{-3}. It follows that even with precise parameter measurements no great relative precision in the determination of internal stress can be expected from X-ray measurements.

Experimentally, the photographic method in back-reflection is generally used. The principle consists of recording on a photographic plate the diffraction rings at large angles produced by the metal studied and often, at the same time, the rings produced by a standard sample, thus eliminating the necessity of sensitive measurements of the distance from the sample to the film.

In back-reflection measurements, particularly with the strongly absorbed long-wavelength X-rays commonly used, the resulting information is largely confined to the surface properties of the sample. The theory of elasticity for a homogeneous isotropic continuum is applied in the interpretation. Of the three principal stresses, one, normal to the surface, is zero, and the other two, in the tangential plane, σ_1 and σ_2, are the two unknowns needed to specify completely the state of stress near the surface.

REFERENCE #1

#221A

A second method allows the elimination of the experiment with the stressless specimen, which sometimes is not available, in making two measurements on the same sample, one at normal incidence and the other at 45°. The accuracy may be a little greater than that of the first method.

These strain measurements with X-rays were begun about 30 years ago, especially in German laboratories (see Glocker), but were not widely used in industrial laboratories because of the considerable experimental difficulty. Actually, in order to obtain the precision indicated in the preceding paragraphs, the metal must satisfy certain conditions. On the one hand, the grain must be rather small so that the line is uniform and continuous; if the sample were composed of rather large grains so that the lines are punctuated, it would be impossible to determine the position of maximum intensity of the ring with the required precision.

Some samples, although sufficiently fine grained, do not yield sharp lines, as, for example, in the case of martensite, nitrided or cemented steels, and it is impossible to determine the center of the line with sufficient precision. The width of the line results in general from lattice distortions. In short, the gage, i.e., the lattice spacing, is not in this case defined well enough that a good determination can be made.

It is best to verify the constants of the final formulas such as equation 7.10 by a calibration with metals submitted to known stresses. Occasionally, an error in the calculation results from the use of macroscopic values of E and γ.

In spite of these inconveniences, the advantages of the X-ray method are obvious in comparison with difficulties encountered in other methods. In particular, it is a completely nondestructive method. Measurements are made, furthermore, on a very small area of the sample's surface; therefore, variations in the local strain can be followed millimeter by millimeter. Finally, one can clearly distinguish plastic deformations, which do not perceptibly change the spacing, from elastic deformations which do, whereas macroscopic extensometers record the sum of elastic and plastic deformations.

September 30, 1966

Miss Eva Adams
Director, Bureau of the Mint
Treasury Dept.
Washington, D.C.

Dear Miss Adams:

It seems that I only write to you when I have a problem. In this case, I have a very serious problem, and I need a technical opinion from the highest possible level.

I am involved in a study relating to the authenticity of several Twenty Dollar gold coins, supposedly struck by the U. S. Assay Office of Gold in San Francisco, California, in 1853. These coins were technically official issues of the U. S., authorized by an Act of Congress in 1850 but a recent opinion from the Treasury Dept. (1964) states that these pieces are not now considered an obligation of the U. S., and that the Secret Service has no jurisdiction over them should they prove to be false.

My problem is, that I have been told that these $20 gold coins are reproductions of modern manufacture, struck in the conventional way but from "steel or other hard metal" dies created by casting. The mould(s) used, it is contended, were composed of a ceramic composition.

The actual size of the coins under discussion is that of a regular $20 gold piece, 34.25 mm. I am enclosing an 8x10" photographic print, showing the reverse of one of the allegedly false pieces, enlarged to 7 5/8" in diameter. I am also enclosing, pages eleven and twelve of a report that attacks the authenticity of these USAGG pieces, and which specifically puts forth the above theory concerning their probable method of manufacture.

In addition to describing how these coins were possibly made from cast steel dies, the enclosed report also contends that different varieties of these coins (which are known in silver, copper and lead, as well as gold) could have been made by alteration of a steel hub which, it is said, was made by pressing the cast die into a piece of "soft" steel.

#23

I would like to know if any of this is possible from a practical technical standpoint. I am considered somewhat of an authority in the rare coin business in connection with counterfeit coins and methods of manufacture but this is the first time I have heard of CAST steel dies, and wonder if they have developed precision steel casting to the extent that coins of the quality, shown on the enclosed photo (geometric design and all) can be struck from a die so made.

I realize that the Bureau of the Mint has made some experiments with the Spark Erosion process towards making coin dies, and that some of your people are undoubtedly familiar with powdered metallurgy, pressure impact die techniques and other modern methods of manufacture, presumably of more value to the counterfeiter than a legitimate minting operation. I would consider it a very great favor if you could have some technical member of your staff read the enclosed and apply the process described in his mind to the enclosed photograph, and tell me if he has ever heard of cast steel dies so made and used. If he has not heard of the process, in reference to coin manufacturing, I would not be surprised. On the other hand, if he has heard of the process, I would be very much interested in knowing if it has been developed to the stage where a coin of the indicated quality could be made.

I realize that this request for information is possibly an imposition, but I can think of no one who could be in a better position to help. I can not tell you how much your cooperation in this situation will be appreciated, and I sincerely hope that you can do something for me.

Respectfully yours,

JJF:dn

John J. Ford, Jr.

Encl.

TREASURY DEPARTMENT
WASHINGTON, D.C. 20220

OFFICE OF
DIRECTOR OF THE MINT

October 18, 1966

Mr. John J. Ford, Jr.
176 Hendrickson Avenue
Rockville Centre, New York 11572

Dear Mr. Ford:

This letter is in reply to your letter of September 30, concerning precision casting techniques. Precision casting for legitimate purposes is well established in industry for the production of a wide variety of items of many materials, including die steels.

Your inquiry applies to the preparation by this method of steel dies suitable for use in the subsequent striking of counterfeit coins. You ask whether the precision casting technique "has been developed to the stage where a coin of the indicated quality," as shown on an enclosed photograph, could be made.

Although we are continually examining questioned U. S. coins, many of which are determined to be counterfeit, this office has not had occasion to examine a counterfeit coin known to have been struck from dies produced by the described precision casting technique. However, our information, obtained from government experts who were instrumental in the development of the process, indicates that the following is true concerning the method, as it might be applied to the manufacture of coinage dies, either genuine or counterfeit:

(1) The fineness of detail attainable by present methods of hubbing will not be equaled in dies produced by the casting method;

(2) Each cast die would necessarily go back to the engraver for hand or mechanical work which would result in variations between dies which would be apparent to an expert examining the resulting coins.

We do not know of any instance where a government mint has used cast steel dies for striking coins. However, we feel that, given sufficient care in the preparation of the dies and blanks, a piece of high quality could be produced. This does not say that the piece so produced would be indistinguishable from the genuine

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#24

coin used to make the mold. One major reason for the coins' being distinguishable is frankly stated in the report, "The shrinkage of steel in the casting produces a slight size differential which is unnoticeable unless measured by precision instrumentation."

In summary, although we lack practical experience with pieces produced by precision casting methods, and although pieces of relatively high quality may conceivably be struck, we feel that there are inherent flaws in this method of counterfeiting which render such pieces amenable to detection.

We hope that the above information will be of assistance to you. If you have other questions in this matter, please let me know.

Sincerely,

Eva Adams

Eva Adams
Director of the Mint

#2419

$20.00 Gold Coin 1853, 900 fine
United States Assay Office of Gold
San Francisco
"Franklin hoard coin" USAOG-111
Weight 514.6 grains
Property of Mr. Harry J. Forman, Philadelphia, Pennsylvania

Obv. Vertical field scratch from l. side of upright of second T in STATES to scroll at a point above r. stand of T in THOUS. Vertical dig in field below scroll directly below l. side of H in THOUS. Shallow surface dig in field opposite shield between (closer to) U of UNITED and T of TWENTY.

Rev. Defect in field following center of E in OFFICE; light diagonal scratch from this point to center of l. stand of N in FRANCISCO. Spot in field near right frame line, diagonally below Y of ASSAY.

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Analysis of the coin by X-ray fluorescence to determine the percentage of gold and silver or copper in the alloy; carried out by Florence E. Whitmore, Research Laboratory, Museum of Fine Arts, Boston; requested by John J. Ford, Jr., Long Island, New York.

Gold %	Silver %
91.0	8.0

Weight of gold coin: 33 gr. 345 mg. or 514.6 grains; specific gravity 17.945 (rel. humidity 46, temp. 77°F.)

Museum No. T.L. 13,428
Examination No. 67.10
May 5, 1967

Technical Assistant

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MUSEUM OF FINE ARTS BOSTON, MASSACHUSETTS 02115 MFA

Research Laboratory

$20.00 Gold Coin 1853, 900 fine
United States Assay Office of Gold
San Francisco
"Franklin hoard coin" USAOG-104
Weight 516.6 grains

Property of Mr. Werner Amelingmeier, Merrick, New York

Obv. Pin-point rim dig above l. stand of A in STATES. Diagonal dig in field below l. stand of first T in STATES. Curved scratch in r. field above scroll end pointing between ER of AMERICA.
Rev. Nick in border field at a point just below 11'o'clock.

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Analysis of the coin by X-ray fluorescence to determine the percentage of gold and silver or copper in the alloy; carried out by Florence E. Whitmore, Research Laboratory, Museum of Fine Arts, Boston, requested by John J. Ford, Jr., Long Island, New York.

Gold %	Silver %	Copper %
89.0	9.0	0.5-1.0

Weight of gold coin: 33 gr. 476 mg. or 516.6 grains; specific gravity 17.44 (rel. humidity 46, temp. 77°F.)

Museum No. T.L. 13,429
Examination No. 67.11
May 5, 1967

Technical Assistant

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MUSEUM OF FINE ARTS BOSTON, MASSACHUSETTS 02115 MFA

Research Laboratory

$20.00 Gold Coin 1853, 900 fine
United States Assay Office of Gold
San Francisco
"Franklin hoard coin" USAOG-124
Weight 516.0 grains

Property of Mr Henry H. Clifford, Los Angeles, California

Obv.

Rev.

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Analysis of the coin by X-ray fluorescence to determine the percentage of gold and silver or copper in the alloy; carried out by Florence E. Whitmore, Research Laboratory, Museum of Fine Arts, Boston; requested by John J. Ford, Jr., Long Island, New York.

Gold %	Silver %	Copper %	Iron %
88.0	8.5	3.0	trace

Weight of gold coin: 33 gr. 437.4 mg. or 516.0 grains; specific gravity 17.41 (rel. humidity 46, temp. 77°F.)

Museum No. T.L. 13,430
Examination No. 67.12
May 5, 1967

Technical Assistant

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